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The Canadian Builder and Carpenter

PUBLISHED ONCE A MONTH BY THE COMMERCIAL PRESS, LIMITED

Vol. 3 TORONTO, MARCH, 1913 No. 3

C A Bradshaw Rd Jun 13
153 Davenport
TORONTO Ont

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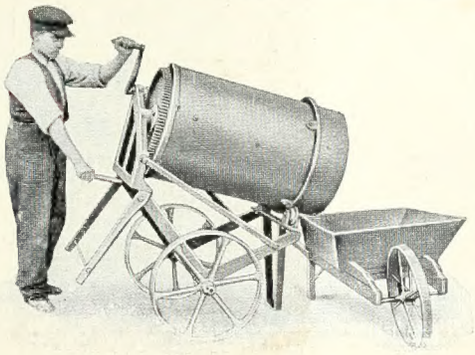
OF TORONTO
CITY

The very machine for Foundation Work



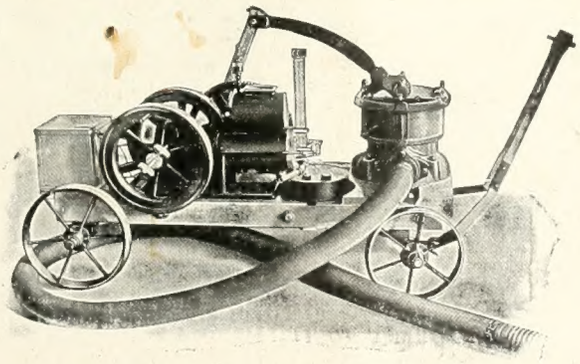
Driven with Direct Gears, and Main Bearing at back of Drum carries the Weight.

The Wettlaufer Hand Mixer

Will Save the Labor of from Two to Three Men

It will certainly pay you to give up mixing Concrete by hand; and buy a Wettlaufer Hand Mixer

This pump will do the work of two men at a cost of not more than 35 cents a day.



This direct saving of time, labor and money will soon pay the cost of the pump.

Send for our Catalogs giving you complete information on our various lines. Free to readers of the Canadian Builder

Wettlaufer Brothers Head Office and Warehouse 178 Spadina Ave., Toronto

AGENCIES:

Office and Warerooms WETTLAUFFER BROS. 316 Lagauchetiere St. W. Montreal

MAYSMITH & LOWE 545 Bastion St. Victoria, B.C.

A. R. WILLIAMS MACHINERY CO. 15 Dock St. St. John, N.B.

The CANADIAN BRITISH ENGINEERING CO., Limited 324 Fifth Street Winnipeg, Man.

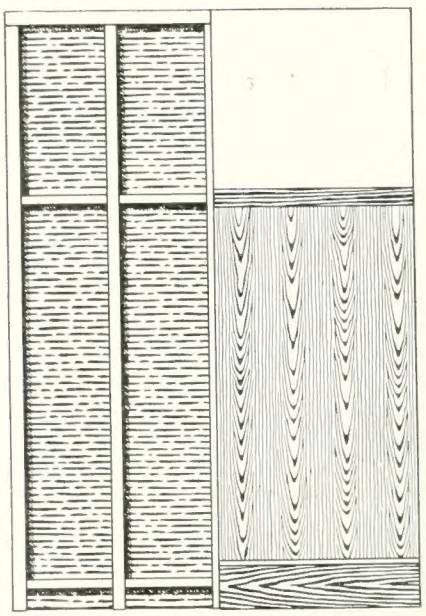
R F. MANCIL 41 Cadogan Blk. Calgary

The HALLMAN MACHINERY CO. 3743 Alexander St. Vancouver, B.C.

Neponset Wall Board

¶ Finished in dark oak, ready to nail on. Requires no further finish. Is waterproof on both sides, and can be easily washed. The best finish for walls and ceilings of kitchens, dining-rooms, parlors, living rooms, bedrooms and attics.

For further particulars write or phone



BEFORE *and* AFTER

Phones :
M. 5284 - M. 1232

Braid & McCurdy

Winnipeg, Canada

Office :
204 Farmer Building

Cut Down Building Expense

by using

BISHOPRIC WALL BOARD

The No-Warping, No-Swelling, No-Cracking Wall Board

FOR INTERIOR OR EXTERIOR WORK
SAVE MUSS DIRT AND DELAY

Get Better Walls and Ceilings in Less Time at Half Plastering Cost.

BISHOPRIC WALL BOARD is the *only* wall-board with lath reinforcing. It is the *lath* that keeps wall board *stiff*. Kiln-dried lath are imbedded in toughened Asphalt-Mastic (non-burnable) and pressed with a surface of heavy sized fibre board. Is water-proof, moisture-proof, sound-proof and fire-resisting. Will not crack, shrink, warp or pull loose. Comes in sheets 4 ft. x 4 ft., ready to apply. Prices: $2.50 for 100 sq. ft.; $6.40 per crate of 16 sheets, 256 sq. ft., F.O.B. factory, Ottawa, Ont.

May we have the pleasure of sending our catalogue, sample of

BISHOPRIC WALL BOARD

and letters from satisfied users. We want exclusive Dealers in every town. Write TODAY for our dealers' proposition. Territory going rapidly.

Address Dept A.

BISHOPRIC WALL BOARD CO., LIMITED
Canada Life Bldg., Ottawa, Ont.

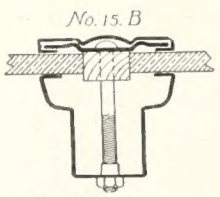
EASYSET

Easy Set System of Store Front Bars

are absolutely the best on the market.

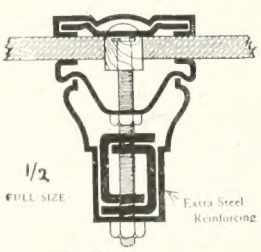
Investigate and see for yourself.

Ask for Samples



½ Full Size

No. 15A



This is our Ordinary No. 15 B Dividing Bar.

Our No. 15 A reinforced Dividing Bar—note the steel reinforcement. No broken plates where this bar is used.

Our No. 15 A Bar will carry the largest plates without danger of breakage from vibration or wind pressure.

The Consolidated Plate Glass Co.

of Canada, (Limited)

Winnipeg TORONTO Montreal

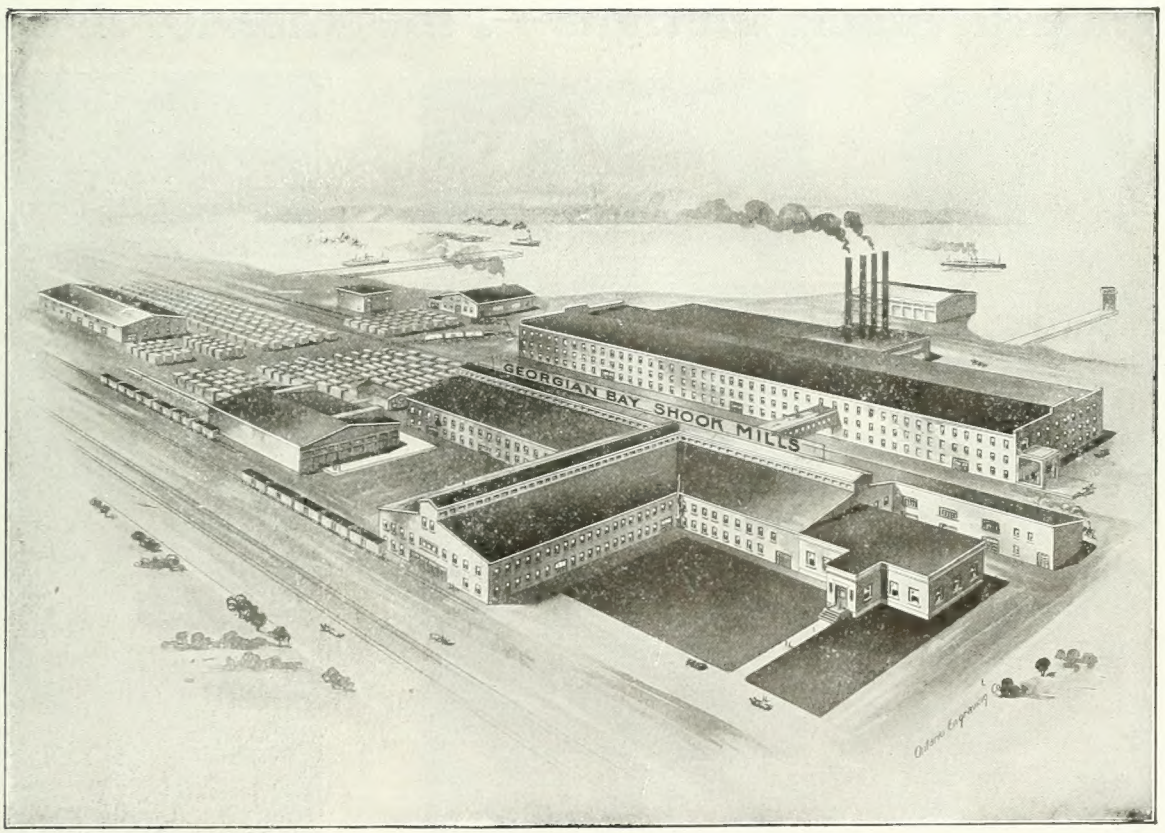
Georgian Bay Shook Mills, Limited

have the Largest Plant in Canada manufacturing Planing Mill Products.

Midland Planing Mill Products

Doors, Sash, Columns, Newels, Trim, Flooring, Joinery Work, Mouldings, Turnings, Hardwood Flooring, Stair Materials, etc.

New 1913 Catalogue free to readers of this paper



The Plant at Midland, Ont.—Located in the Heart of the Canadian Lumbering District

Manufacturers from the tree to the finished product

Saw Mill Operations, LaFontaine, Ont.

Georgian Bay Shook Mills, Limited

Midland, Ontario

Midland
Planing Mill Products

Doors, Sash, Columns, Newels, Trim, Flooring, Joinery Work, Mouldings, Turnings, Hardwood Flooring, Stair Materials, etc.

New 1913 Catalogue free to readers of this paper

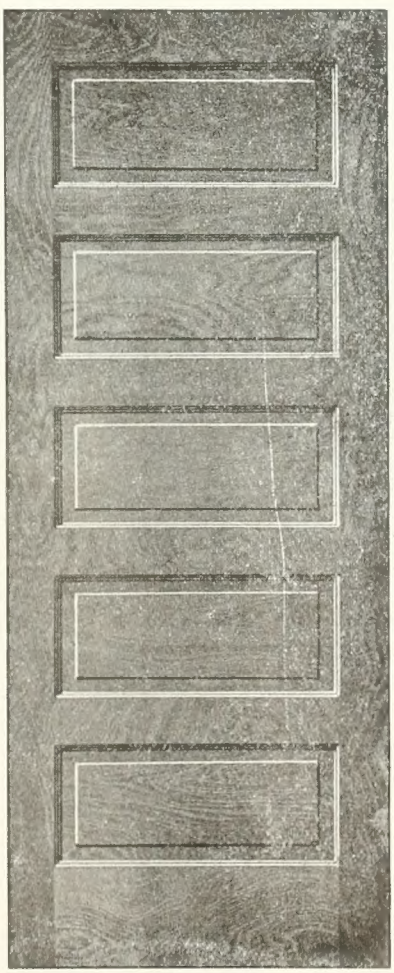
Doors—Pine, Hard-

Everything for House-Building that is Wood

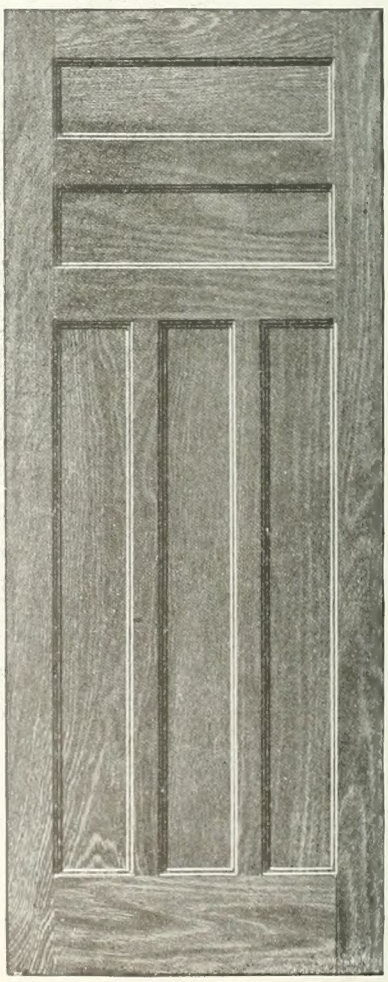
Pine Doors, Sash, Frames Flooring, Siding

Standard Stock Designs—Pine Interior Doors

No. 15



No. 17



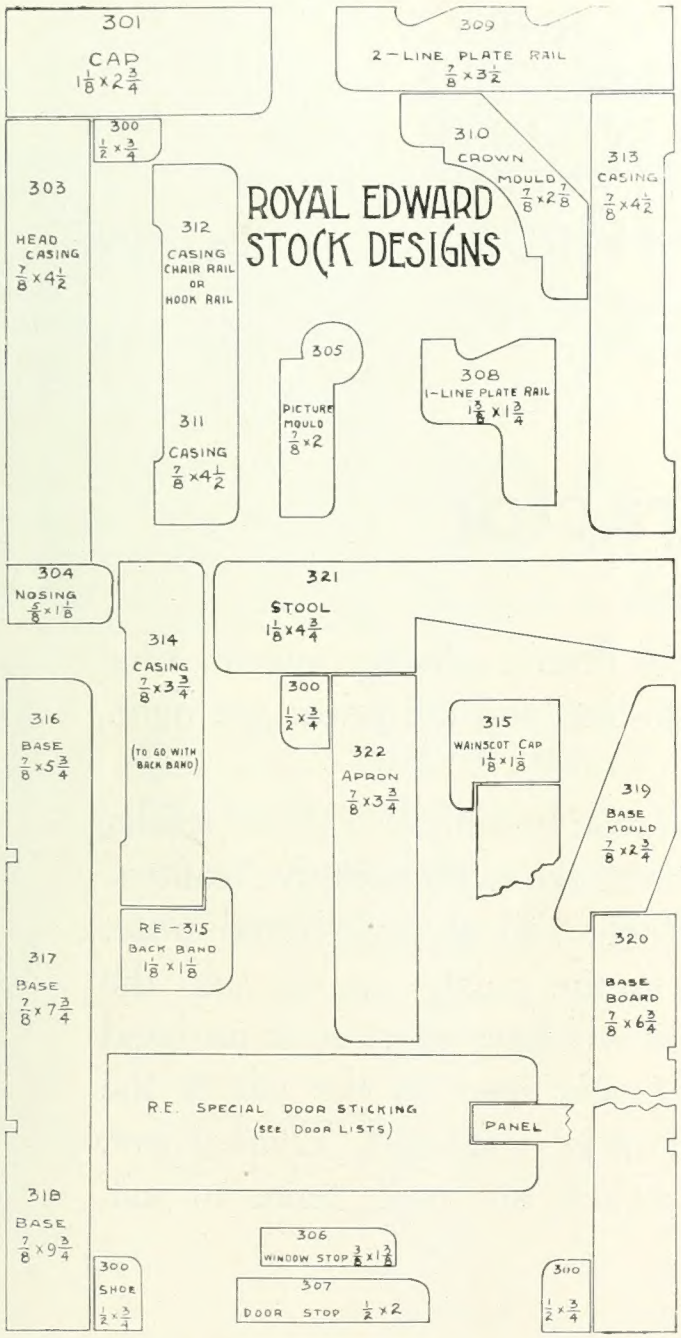
No. 18

Georgian Bay Shook Mills,

wood and Veneered

UP-TO-DATE DESIGNS AND EXCLUSIVE FEATURES

Standard Stock Designs—Colonial Interior Trim



See our Catalogue for Special Designs
MODERN, MISSION, and ART CRAFT INTERIOR TRIM

Midland Planing Mill Products

Doors, Sash, Columns, Newels, Trim, Flooring, Joinery Work, Mouldings, Turnings, Hardwood Flooring, Stair Materials, etc.

New 1913 Catalogue free to readers of this paper

OUR

Veneered Door Plant

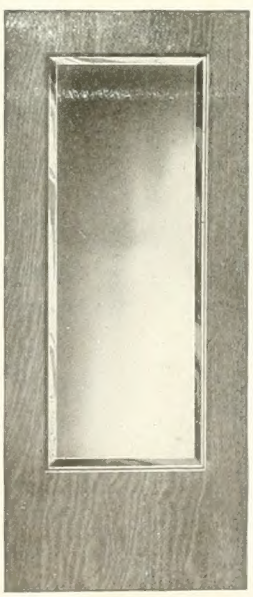
Is the Largest in Canada

Output - - 50 Doors per Day

To advertise it, we have gotten out a Special Line at the lowest prices ever offered on Veneered Doors in Canada.
They are our regular high grade and are ***made in Canada.***

We advertise this line only in our Stock Designs Catalogue

No. 60-M



No. 61-M

Limited: Midland, Ontario

Midland
Planing Mill Products

Doors, Sash, Columns, Newels, Trim, Flooring, Joinery Work, Mouldings, Turnings, Hardwood Flooring, Stair Materials, etc.

New 1913 Catalogue free to readers of this paper

Columns and Newels

We manufacture everything that we supply, and we supply the bill stuff and everything that is wood.

TURNINGS
COLUMNS
INTERIOR TRIM
VENEERED DOORS
HARDWOOD FLOORING

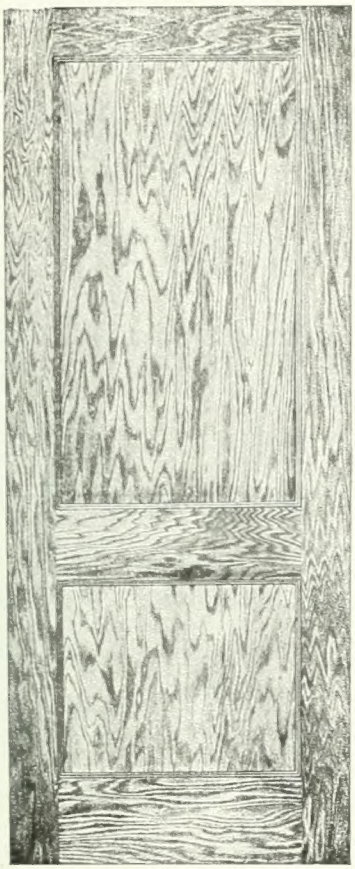
To the Contractor:

¶ It pays to get good Goods from a reliable concern. Our goods are first-class and up-to-date and the prices are right.

¶ Now, where we can serve you best of all is this. Besides offering the best goods on the market with exclusive features, we offer to supply your Whole Bill at a delivered price, f.o.b. your station. Here is the point,—as we ship the whole order in a car-lot, you will have every stick on hand when you need it. You put your men on the job at the start, and they don't stop till the job is finished. *Think it over.* We quote promptly upon request, and make terms to suit.

Georgian Bay Shook Mills, Limited

Midland, Ontario



381. In Birch and Oak

DOORS

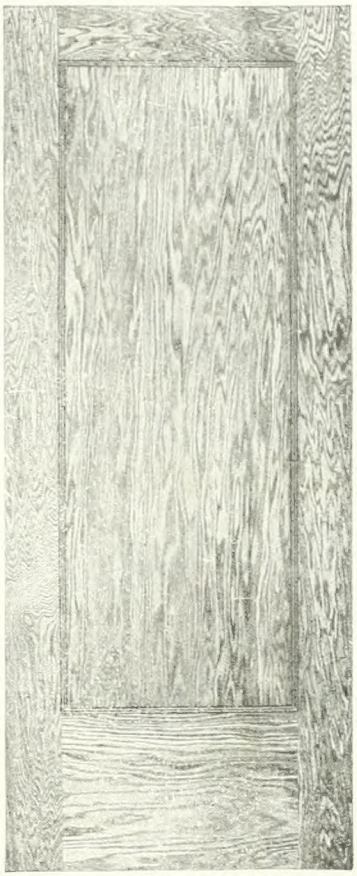
Made by

The
Paine Lumber Company

originators of

Stock Hardwood Veneered Doors

Both the Patterns shown here are carried in stock in Birch and Oak



402. In Birch and Oak

¶ The aim of every House Builder is to have the interior of the house he builds rich, beautiful and harmonious at a small expense. Doors are the most conspicuous furniture in a room.

The two doors illustrated here will give the richness and beauty to be desired; and yet they are economical and practical. These doors are sanitary in design; and the unbroken expanse of panels permits the grain and natural figure of the wood to be displayed, giving character to the door. The construction is durable and substantial. Because of the number manufactured the cost is reasonable.

Write us. We carry a large stock of both Designs in Birch and Oak, ready for ***Immediate Shipment.***

Powell Lumber & Door Co.,

310-312 Front St. W., Toronto Limited

SIMONDS

This year more

Simonds Hand Saws

are being sold in Canada than ever before.

There is a good reason.

The Saw is probably the best hand saw that has been or can be made today. The steel is Simonds' own Crucible Steel and the handles selected applewood. Every saw absolutely guaranteed. Let your Hardware Dealer explain more about this saw and show you samples or write us for further particulars.

Simonds Canada Saw Co.
Limited
St. Remi St. and Acorn Ave.
Montreal, Que.

or Simonds Mfg. Co.
Fitchburg
Mass.

SIMONDS SAWS are best and they ARE the best

SAW

LOCKS & YALE LOCKS

THE word "lock" alone is not enough for you to use when you specify fastenings for the house you design. There are locks in which positive security has been carried to the superlative degree.

There is a Yale Lock for every purpose, from the smallest bureau drawer to the largest barn door—from the simplest padlock to the most complicated bank lock. In order that you may recognise these locks, and that we, the manufacturers, may get the credit for making them, we put the word "Yale" like this:

YALE

on each lock. The word "Yale" identifies the lock and protects the lock-up.

Canadian Yale & Towne Limited

Makers of Yale Products in Canada; Locks, Padlocks
Builders' Hardware, Door Checks and Chain Hoists

General Offices and Works - - St. Catharines, Ont.

A Few Door Pointers

¶ There are several points in the Construction of Veneered Doors which are not visible when the door is finished, but which are of most vital importance to its life and strength.

First, and of probably most import, is the dryness of materials used.

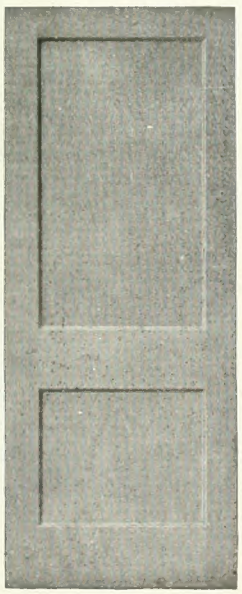
Secondly, the construction of the cores, which should be joined with locked core to insure against any defect in the glue, which, by the way, is one of the weakest points in any veneered work.

Thirdly, all panels should be laminated to prevent warping and splitting as much as possible.

These three points are the most important and are found, along with many others, in our high-grade doors, which we are offering, and we only ask an opportunity to ship you some of our stock and let you be the judge.

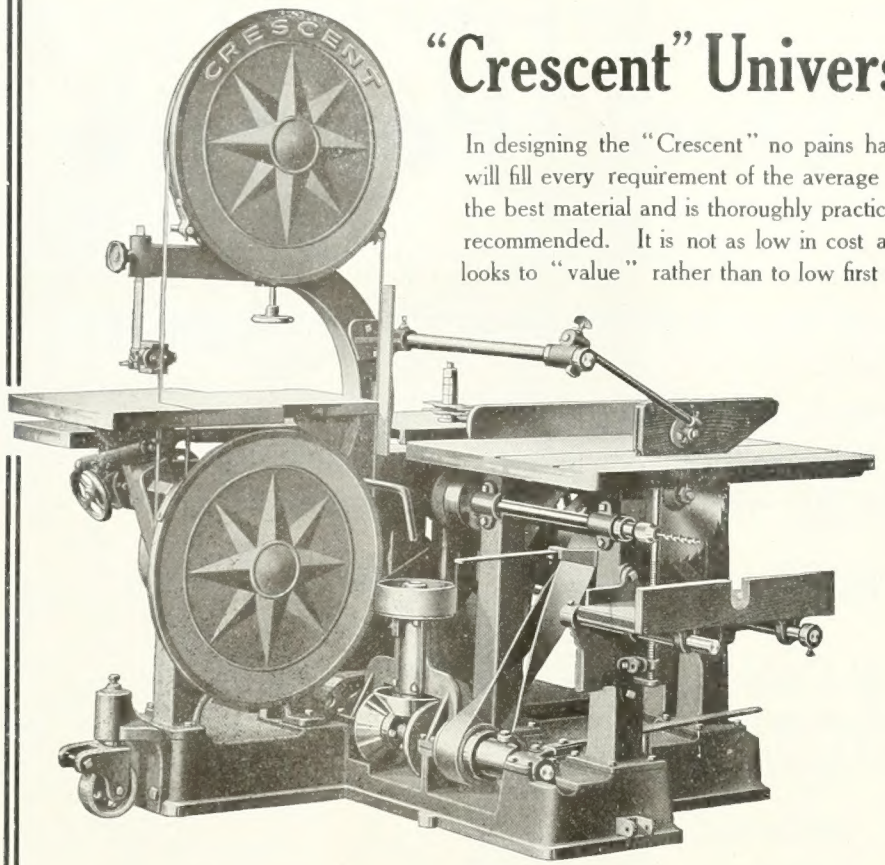
We also handle everything in

LUMBER, LATH AND SHINGLES



Canada Lumber Company, Limited

Mill: Weston, Ont. **Head Office: 106 McKinnon Bldg., Toronto** Yards Toronto and Weston



"Crescent" Universal Wood-Worker

In designing the "Crescent" no pains have been spared to make it a machine that will fill every requirement of the average woodworking shop. It is heavily built of the best material and is thoroughly practical and efficient for every use for which it is recommended. It is not as low in cost as some other makes, but to the user who looks to "value" rather than to low first cost we have a machine he can not afford to pass by in favor of any other. It weighs 3200 lbs., and is recommended, when fully equipped, for ripping, cross-cutting, band sawing, jointing, rabbiting, mortising, tenoning, dadoing, etc., etc.

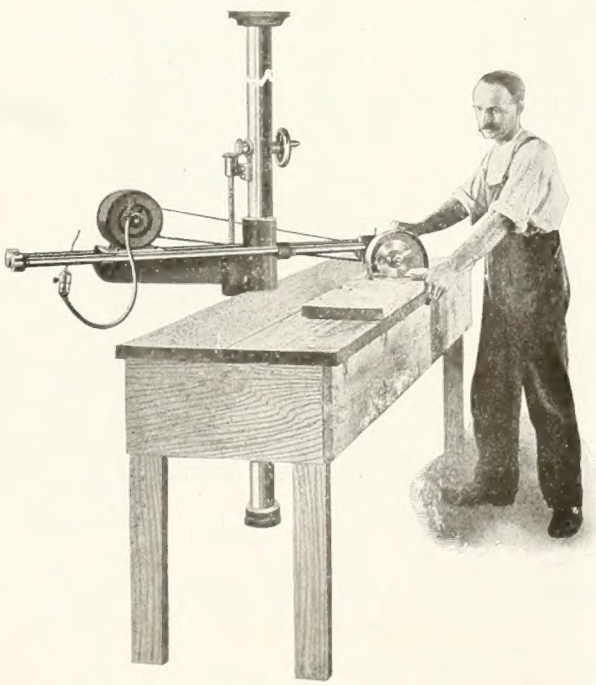
Send for Catalogue and Prices.

We make a Specialty of outfitting Wood-Working Mills with complete equipment of Machinery.

J. L. Neilson & Co.

602 Main St., WINNIPEG, MAN.

Hutchinson Combination Woodworker



The Hutchinson Woodworker is easily adjusted and does not get out of order

Is a great TIME and LABOR SAVING machine

READ WHAT IT WILL DO

The Hutchinson Woodworker is particularly adapted for the following every-day work in any carpenter shop or building under construction: Cutting Studs, Rafters, Braces; Boring for Dowelling, Tenoning, Dadoing, Pulley Stiles, Window Sills and Door Jams; Routing Stair-Stringers; Mitreing of any kind, Tool Grinding, etc.

It can be set to suit any of these purposes in one minute, and once set will do as much work in an hour as a carpenter will do in a day.

The Hutchinson Woodworker can be set up on any job or in a shop within an hour.

It does not require a skilled mechanic to operate it. Any handy man can get out work upon it.

Write now for catalogue giving full particulars of the machine. Its free to readers of The Canadian Builder.

M. Hutchinson

1011 Eastern Ave. TORONTO

Everything to Complete Woodwork of Your Building

See this and following three pages

Batts' Staved Columns

Our Columns have a Special *Lock Joint,* which prevents Staves opening, and also increases the Glueing Surface. We use only the best grade of Waterproof Glue.

Design B.L. No. 1

Lh. Dia.	5″	6″	8″	10″	12″
4 ft.	$1.60	1.70	2.25	3.00	5.00
5 ft.	1.85	2.00	2.40	3.25	5.50
6 ft.	2.10	2.20	2.50	3.40	5.75
8 ft.			3.10	4.20	6.75
9 ft.			3.50	4.75	7.50
10 ft.			3.75	5.00	8.00

Design B.L. No. 2

Lh. Dia.	5	6	8	10	12
4 ft.	$1.60	1.70	2.50	3.35	5.75
5 ft.	1.85	2.00	2.65	3.60	6.25
6 ft.	2.10	2.20	2.75	3.75	6.50
8 ft.		—	3.35	4.55	7.50
9 ft.		—	3.75	5.10	8.25
10 ft.		—	4.00	5.35	8.75

Design B.L. No.

Lh. Dia.	5	6	8	10	12
4 ft.	$2.10	2.20	3.00	4.70	6.75
5 ft.	2.40	2.55	3.20	5.30	7.50
6 ft.	2.70	2.80	3.35	5.80	7.60
8 ft.			4.10	7.70	8.70
9 ft.	—		4.55	8.25	9.50
10 ft.	—		4.90	8.60	10.05

Design B.L. No.

Lh. Dia.	5	6	8	10	12
4 ft.	$2.60	2.80	3.70	4.75	8.00
5 ft.	2.85	3.10	3.85	5.00	8.50
6 ft.	3.10	3.30	3.95	5.15	8.75
8 ft.			4.55	5.95	9.75
9 ft.	—	—	4.95	6.50	10.50
10 ft.			5.20	6.75	11.00

Design B.L. No. 6

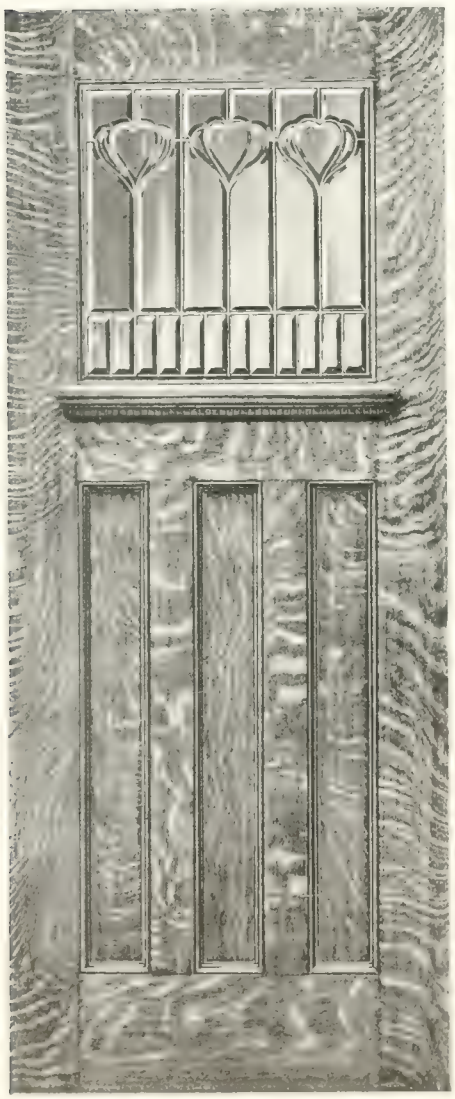
Lth. Dia.	10″	12″	14″
6 ft.	$6.80	8.85	10.60
8 ft.	8.70	9.95	11.95
9 ft.	9.25	10.75	12.90
10 ft.	9.60	11.30	13.56

Builders allowed 10 per cent. discount on above, 8, 10 and 12 in. columns in designs Nos. 1, 2 and 3

BATTS LIMITED West Toronto, Canada

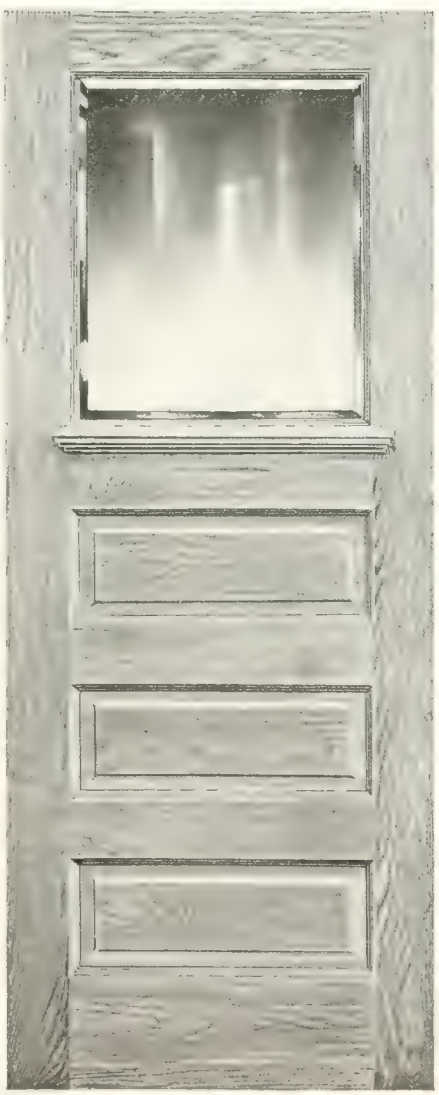
Staved Columns, Veneered and
Balusters, Sash, Floo

Batts Doors are Reliable Doors at Reasonable Prices



B.L. No. 314, ¼ Cut Oak

Sizes in Stock			Cut Oak	Pine
2 ft. 8 in. x 6 ft. 8 in.	1¾ in.	Price	$8.50	$4.00
2 ft. 10 in. x 6 ft. 10 in.	1¾ in.	Price	8.50	4.25
3 ft. 0 in. x 7 ft. 0 in.	1¾ in.	Price	9.00	4.50



B.L. No. 307, Pine

2 ft. 6 in. x 6 ft. 6 in.	1¾ in.	Price	$3.75
2 ft. 8 in. x 6 ft. 8 in.	1¾ in.	Price	3.75
2 ft. 10 in. x 6 ft. 10 in.	1¾ in.	Price	3.75
3 ft. 0 in. x 7 ft. 0 in.	1¾ in.	Price	4.00

B.L. No. 306, ¼ Cut Oak

		Cut Oak	Pine
2 ft. 10 in. x 6 ft. 10 in.	1¾ in.	Price $7.50	$4.75
3 ft. 0 in. x 7 ft. 0 in.	1¾ in.	Price 7.75	5.00

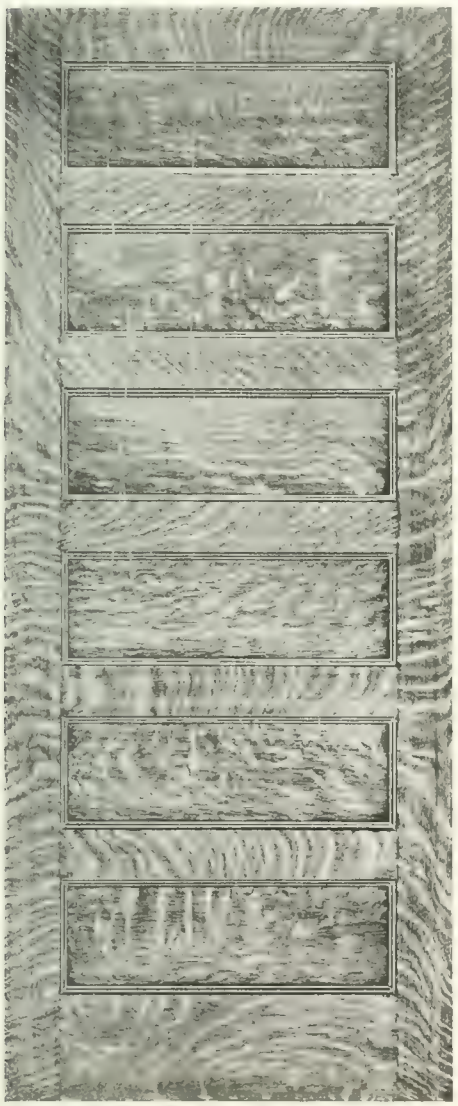
Many other designs are shown in our 1913 catalogue —sent free upon request to readers of The Canadian Builder

BATTS LIMITED West Toronto, Canada

Pine Doors, Newel Posts, Frames,

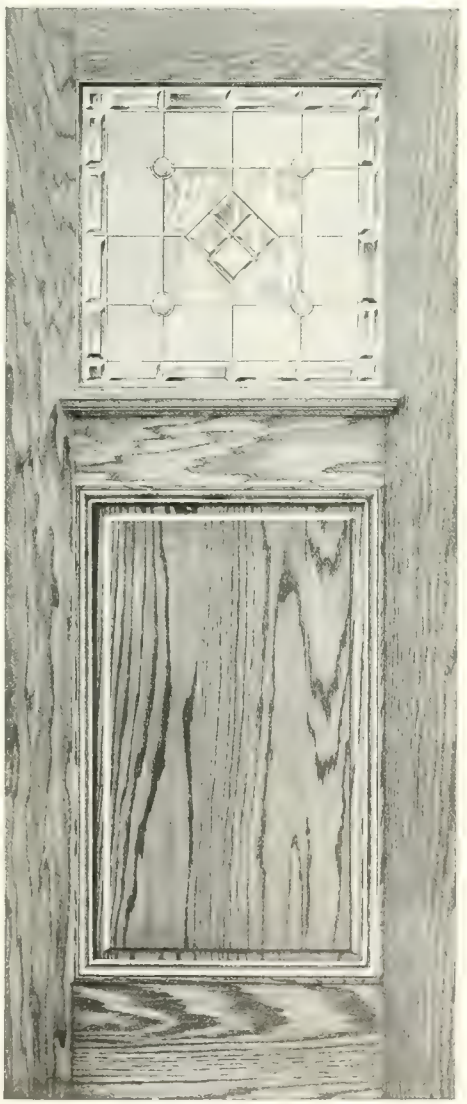
ing and in fact everything required to complete woodwork for your building

We have the Largest and Best Equipped Sash, which enables us to manufacture *high-grade goods* at **Door and Column Factory in Toronto** *Reasonable Prices;* and also insures *prompt delivery*



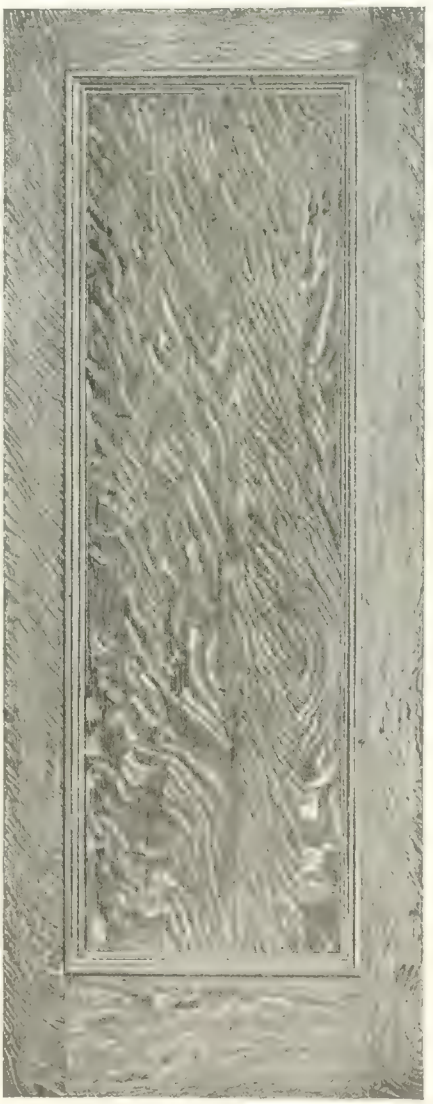
B.L. No. 301, ¼ Cut Oak

Sizes in Stock		
2 ft. 8 in. x 6 ft. 8 in.	1¾ in.	Price $7.40
2 ft. 10 in. x 6 ft. 10 in.	1¾ in.	Price 7.40
3 ft. 0 in. x 7 ft. 0 in.	1¾ in.	Price 7.65



B.L. No. 310, Plain Oak

Sizes in Stock		Pl. Oak	¼ Oak	Pine
2 ft. 8 in. x 6 ft. 8 in.	1¾ in.	Price $8.00	$8.50	$5.00
2 ft. 10 in. x 6 ft. 10 in.	1¾ in.	Price 8.00	8.50	5.00
3 ft. 0 in. x 7 ft. 0 in.	1¾ in.	Price 8.50	9.00	5.50



B.L. No. 316, ¼ Cut Oak

A beautiful and high class design of inside door

With Copper Light as above for 2 ft. 10 in. x 6 ft. 10 in. add $5.25

If you do not see the styles of doors here you wish, send for our 1913 catalogue, free to readers of The Canadian Builder

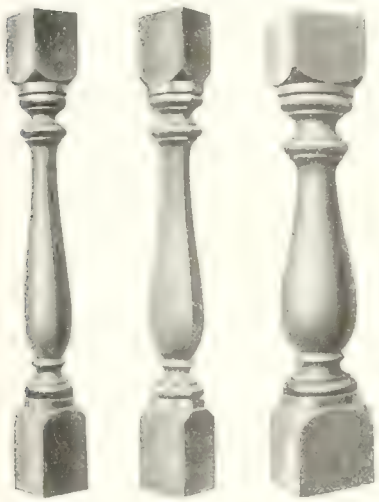
BATTS LIMITED West Toronto, Canada

All Woodwork for Your Building

Send us your complete Bill of Materials

Our Goods, Our Prices, and Our Deliveries will please you

Let us figure with you on your Stair Material and Turnings



B.L. No. 251 2 x 2" 1.10 12c.

B.L. No. 252 1¾ shaped and beaded 1.10 9c.

B.L. No. 253 L-shaped 1.10 6½c.

B.L. No. 256 3 x 3 x 1.10 20c.

B.L. No. 257 1.x1.. 2.0 7c.

Design B.L. No. 206

Sizes in Stock.	Cut Oak Veneered
5 x 4	$4.55
5 x 5	5.15
5 x 6	5.75
6 x 4	4.90
6 x 5	5.60
6 x 6	6.40

Design B.L. No. 94

Sizes in Stock.	Cut Oak Veneered
5 x 4	$4.40
5 x 5	5.15
5 x 6	5.80
6 x 4	5.05
6 x 5	5.10
6 x 6	6.05

Design B.L. No. 210

Sizes in Stock.	¼ Cut Oak.
6 x 4	$4.00
6 x 5	5.00
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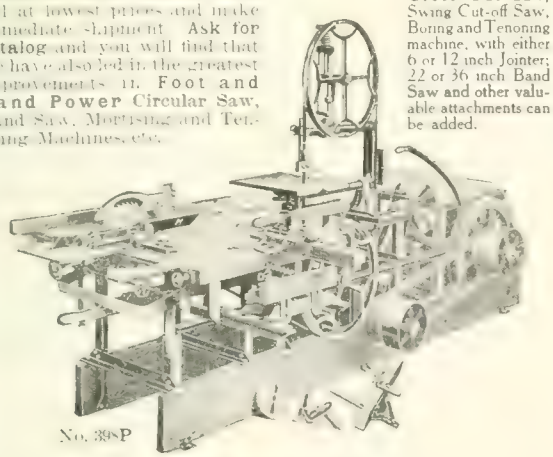

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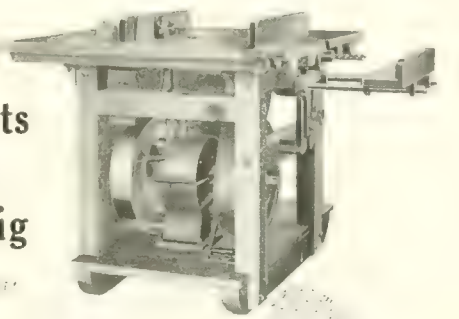

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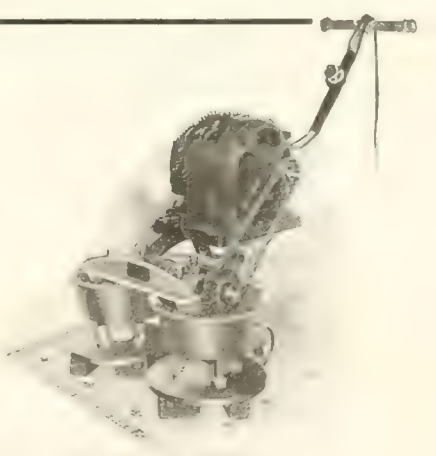

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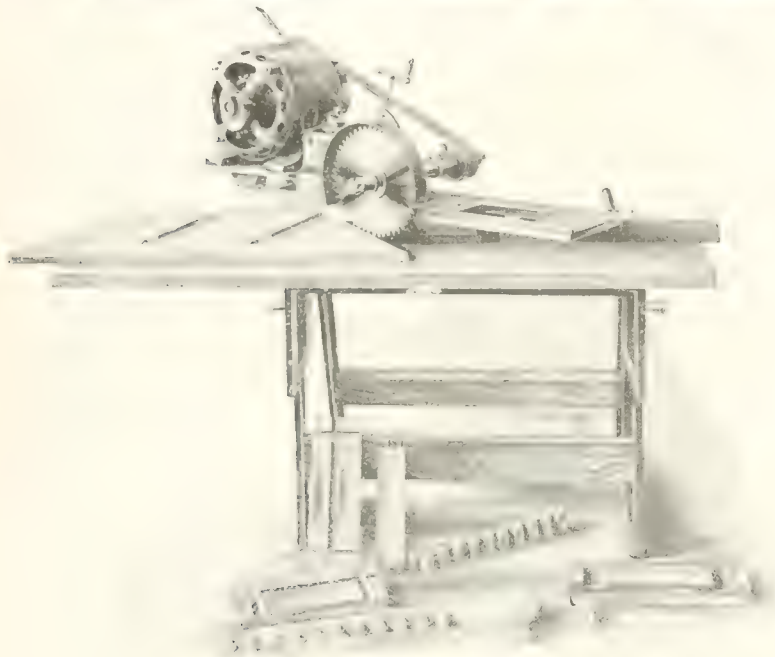

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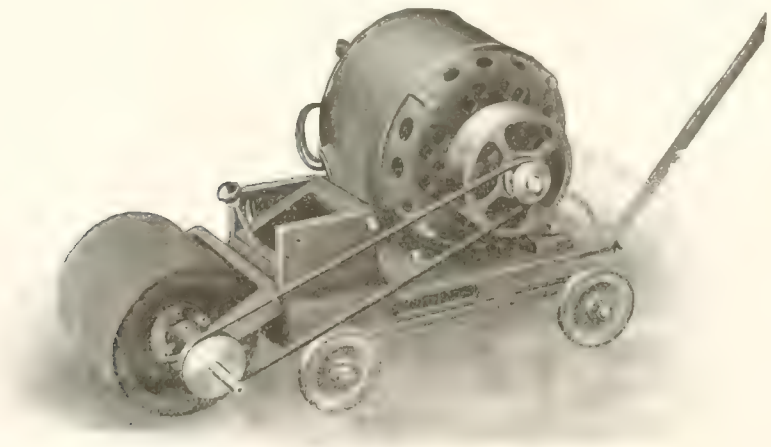

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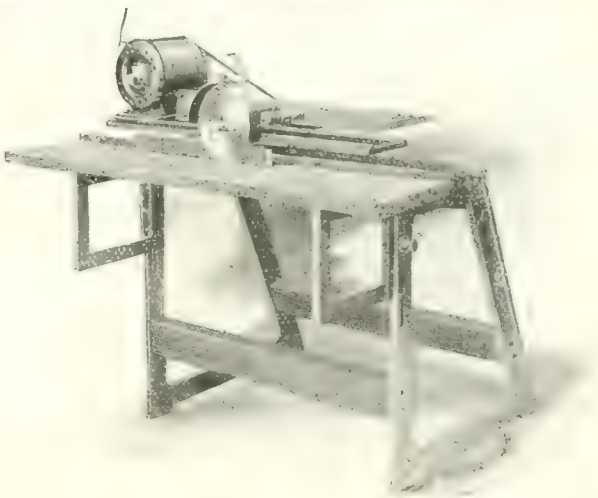

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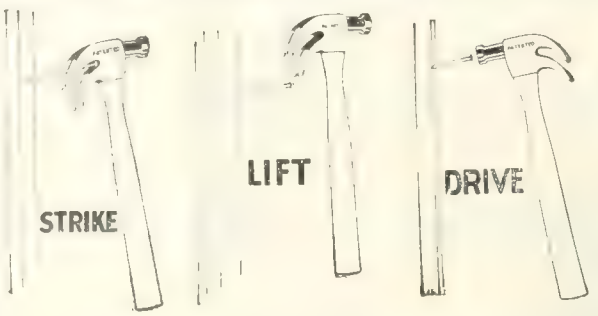

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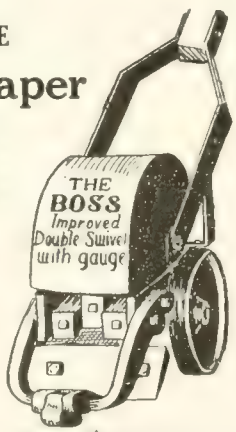

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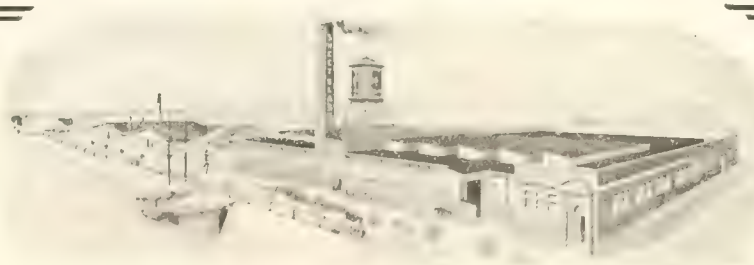

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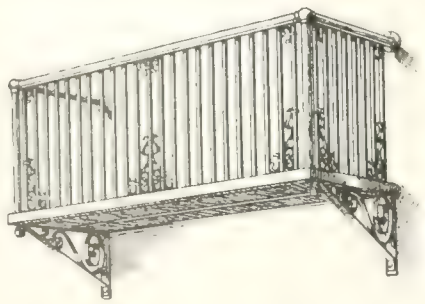

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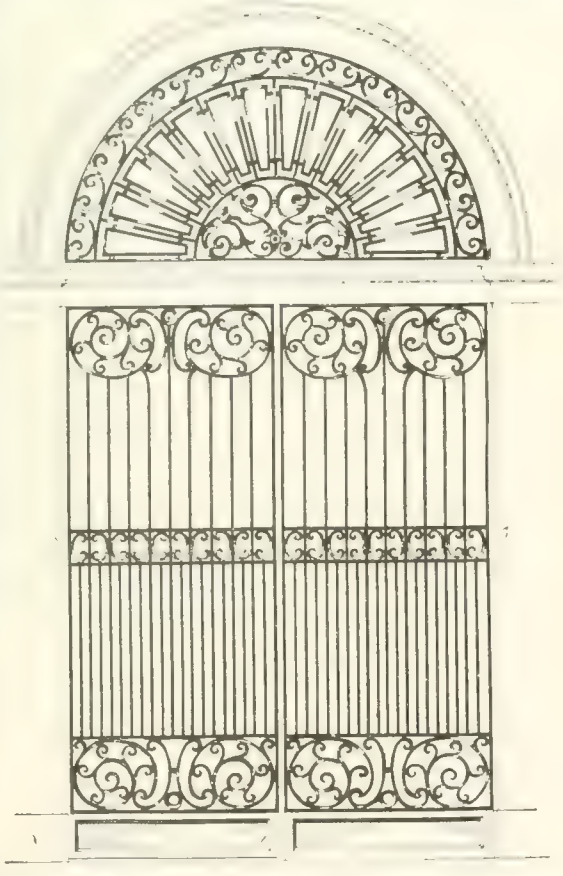

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Fig. 1. Front elevation "Chambers Memorial" Smiths Falls Public Hospital.

A Well Planned Hospital

Architect - *G. T. Martin, Smiths Falls*
Builder - *John Davidson, Smiths Falls*

Total Cost (with Public Wing and Extras) $36,000.

By Gordon C. Keith

THE citizens of Smiths Falls, Ont., recently erected a public hospital designed by a local architect, Mr. G. T. Martin, and erected by a local builder, Mr. John Davidson. The contract price was $29,000. Later the public wing was added at a cost of $5,125, and this, with extras, made a total of from $36,000 to $37,000.

The building is located on an elevation in the centre of a four-acre site overlooking the Rideau River and surrounded by a grove of elms. The property was presented to the hospital directors by Mrs. Mary E. Chambers to be a site for a public hospital. The money was raised by the town council and citizens under the direction of Mr. Frank O. Whitcomb, Superintendent of the Frost & Wood Company, Limited, President of the Board of Directors. Mr. Whitcomb has the happy faculty of keeping the foremen and men in the shop "pulling together," and to him is due considerable credit for the enthusiasm and unity of the various organizations interested in the erection of the hospital.

The hospital is an imposing two-storey and a half structure with basement, built of Milton terra cotta pressed brick with stone trimmings. It has a frontage of 74 feet and a depth of 137 feet with a wing 26 by 45 feet, extending to the south. In front is a three-storey varandah with Ionic capped columns. In the north-west corner is a small sun parlor in connection with the children's ward, while on the south side is a large two-storey sun parlor. At the south end of the public wing a two-storey verandah has been erected.

Features of the Ground Floor.

The entrance to the hospital is through a lobby into an octagonal reception hall, which is shown in Fig. 3. This gives, also, a view of the hall with the hydraulic elevator in the background.

On the right are the apartments of the Lady Superintendent, consisting of sitting room, bedroom, private bath, etc., while on the left is the office of the Secretary through which a door leads to the Board room. It may be judged from the photograph of the reception hall, that the hospital is well provided with natural light. In fact this is one of the excellent features of the hospital, which may be seen to advantage in the photograph of the south side.

With the exception of the reception room, all doors and windows are finished with a plain rounded strip. This prevents any dust from accumulating, a thing much desired in a hospital. Floors are oiled hardwood with possibly the exception of the operating room to which reference will be made later. The doors and cork matting of the reception hall are green, but white is the prevailing color throughout the rest of the building. The only exception is in the wards where the doors are finished in the natural color.

To the east of the Board room and Superintendent's rooms, is a cross-corridor. On the north end is a private ward and on the south end is a semi-private ward used at present as nurses' quarters. Next to this room is a private ward facing the sun parlor. Across the hall is another ward similarly situated.

Following along the main corridor on the south side are linen closets, a private ward with private bath and long distance telephone, and two other private wards. On the south side, also, is the kitchen furnished with oil stove, refrigerator and other necessary equipment.

On the north side of the main corridor the arrangement is somewhat different. Beginning from the cross corridor are, the quarters of the assistant superintendent; the dispensary; the homelike nurses' sewing room, a view of which is here shown; and the room of the night supervisor.

Another cross-corridor leads on the north to an entrance door opening to the grounds. On the east side of this hall is a private ward. On the south end of the hall is the men's public ward furnished with nine beds. It has light from three sides and opens out upon a large verandah.

The ceilings on the ground floor and also on the main floor are twelve feet high. Fanlights are provided over all doors to assist ventilation. A complete ventilating system has been provided for and ducts run from the various wards and rooms to the attic where a slow revolving fan will be installed.

Fire Protection and Elevator.

At each end of the main hall fire hose attached to the town water system are to be found, and on every flat six pails full of water are kept in case of emer-

gency. A fire door which closes automatically in case of fire, shuts off the main building from the elevator shaft on each flat. Fire escapes have been provided at convenient points in the building.

One of the important pieces of equipment is the hydraulic elevator at the east of the main corridor supplied by the Turnbull Elevator Company, Toronto. When the ambulance drives in at the back of the hospital the stretcher is lifted out upon a platform leading to a double door, as that door is opened the stretcher is carried into the elevator and taken to the main or first floor as the case may demand. The elevator runs by hydraulic power, 100 gallons of water being needed each trip. It is surrounded by a stairway running from the basement to the top of the building.

First Floor of the Hospital.

Beginning at the front, there is on the right a private ward and on the left the maternity ward. In the northwest corner, reached by the cross-corridor, is the children's department. It holds six cots and children's furniture, opens out upon a small sun parlor and has a private bath room in connection.

At the south end of the cross-corridor are two semi-private wards opposite each other. Opening out on the sun parlor are two private wards.

On the south side of the main corridor are three private wards and diet kitchen. The women's public ward is in the wing extending to the south. The south side of the first floor is similar in design to the ground floor.

On the north side of the main corridor is a suite of five rooms, anaesthetic, operating, sterilizing, doctors' wash-up room and doctors' dressing room. In three of these rooms the floors are of tile, which extends to a distance of eight inches up the walls. The floors are so constructed that they can be washed out by the hose, and the waste is carried away by a drain in the floor. The light in this room is excellent, coming as it does through lights in the ceiling and walls.

Kitchen, Laundry and Other Features of the Basement.

The basement is light and airy, the ceilings being nine feet four inches high. In the north-west corner is a very large store room, and on the other side of the hall is the nurses' dining room. The rooms on the south side of the hall are occupied by the help, including cook, housemaids, caretaker, etc. On the north side of the hall is the kitchen. This is equipped with a two-fire McClary range, splendid cupboards, and everything in the way of kitchen utensils. A dumb waiter runs from the kitchen right to the top of the building. The pantry and ice-chamber are on the east side of the kitchen.

The laundry is equipped with the latest machinery and is located in the basement of the south wing. The machinery consists of a washer, extractor, mangle, soap tank, etc., of the most approved modern type, operated by an eight horsepower steam boiler which also supplies steam for the sterilizer.

The building is heated throughout by means of two Safford hot water furnaces, manufactured by the Dominion Radiator Co., of Toronto. Water for operating room purposes is furnished by a separate boiler and heater situated in the basement.

A feature of the hospital, which will be seen by reference to the plans and photographs, is the number of bathrooms and lavatories. There is also an abundance of linen closets.

In each ward there is a push button connecting with an annunciator on each flat. There is also a system of house telephones so that the superintendent and nurses may communicate with each other without climbing the stairs.

The attic is not completed but will be used for nurses' quarters when necessary. The ceilings are high, and this flat will prove very satisfactory for this purpose.

The architect was Mr. G. T. Martin, and the builder, Mr. John Davidson, both of Smith's Falls. The sub-

Fig. 2.—South elevation of Smith's Falls Public Hospital, showing sun parlor, front and south verandahs, and the large number of windows for natural light. (Photos by J. J. Kerfoot, Smiths Falls.)

A Well Planned Hospital

Fig. 3.—Reception room of the South Falls Public Hospital. The room is a complete octagon.

Fig. 4.—Nurses' sewing room on the South Falls Public Hospital. It is situated on the north side of the ground floor.

Fig. 5.—A corner of the children's ward situated in the north west corner of the first floor.

contractors were: Stone and brick work, Adam Johnston; painting, Wm. McKoy; plastering, Thomas Manders, all of Smith's Falls; and plumbing, Ross & Co., Brockville.

The writer acknowledges his indebtedness to the Lady Superintendent, Miss E. Austin, and to Mr. F. O. Whitcomb, for their kind assistance in collecting information for this article.

Toronto Agrees on 250-Foot Limit

After several meetings and considerable discussion, the City Council of Toronto decided to limit the height of office buildings to 250 feet. When the decision was reached, the Royal Bank and the Dominion Bank were each given a permit to erect a 20 storey office building at King and Yonge Streets.

When these are put up, Toronto will rank with any city in America in the matter of sky-scrapers. Some people are under the impression that all American cities possess high buildings. This is not so. Boston has a limit of 100 feet, although, in special cases, a permit for a 125-foot building is given. Other places and their restrictions are:—

St. Louis: No building except a hotel or office building may exceed 150 feet in height, and if on a street less than 60 feet wide, not more than two and a half times the width of the street. An office building may not exceed 250 feet in height, and the lot it occupies must be equal to at least half the area of the square in which it is situated, and the building must face on not less than three streets.

Berlin, Germany: The limit is about 70 feet, and, as a rule, no building higher than the width of the street upon which it faces is allowed.

London, England: The height of buildings must not interfere with the angle of light—which means that high buildings may not be erected on narrow streets.

Montreal: The limit is 130 feet, and in spite of statements to the contrary, no higher building has yet been granted a permit.

Chicago: No building may be erected higher than 200 feet. This regulation was made as recently as September 1st, 1911. Chicago is in a state of reaction against high buildings and is at last attempting to check the evil.

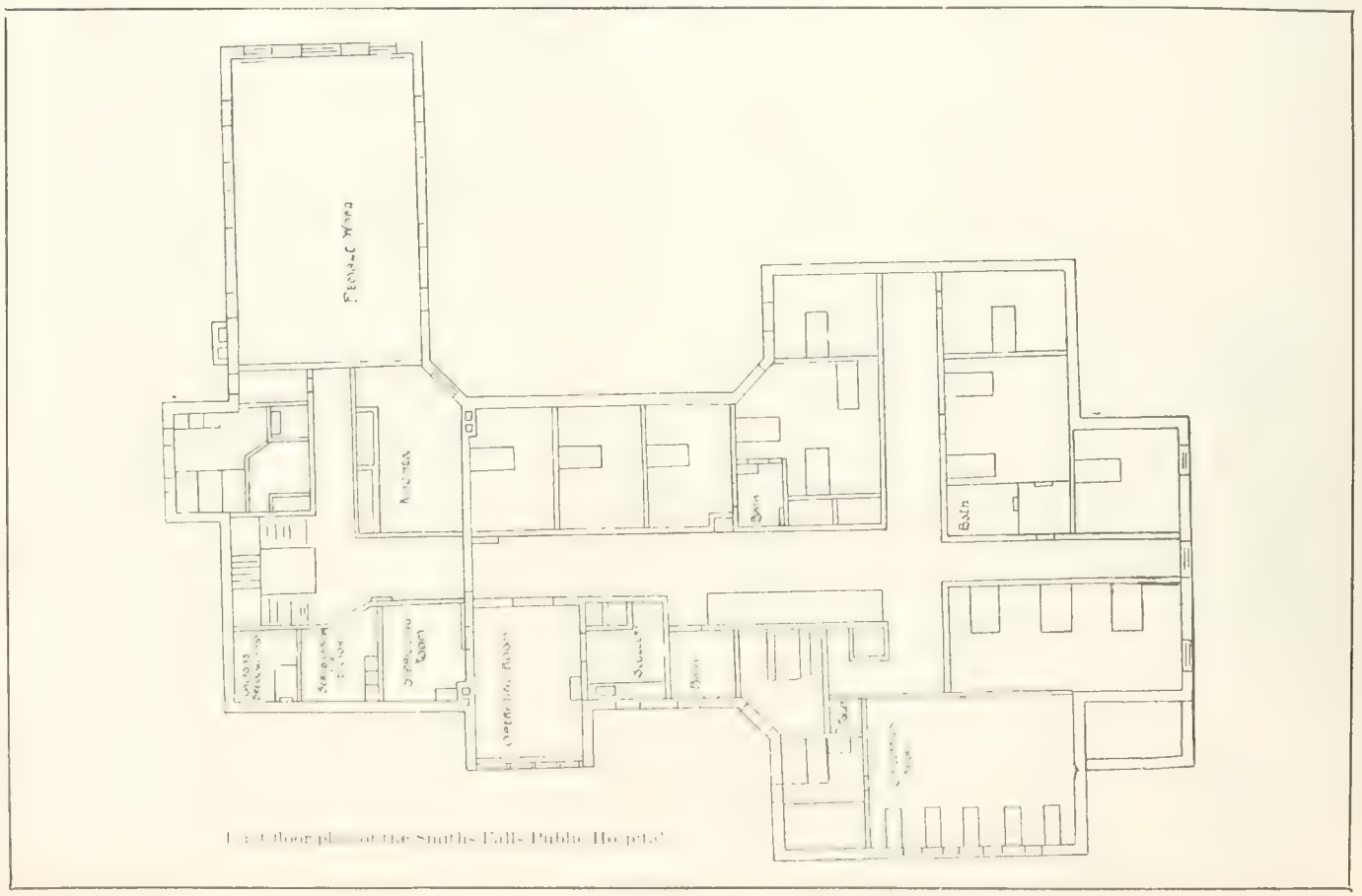
New York City: Even in this city of skyscrapers an attempt is being made to limit the height of buildings on Fifth Avenue to 125 feet (with an allowance of two additional storeys in a mansard). The reasons given for this step are that limitation is necessary for the safeguarding of the public health and that the number of people employed in buildings of a greater height congest the street and destroy its value as a thoroughfare.

Money Scarce in Hamilton

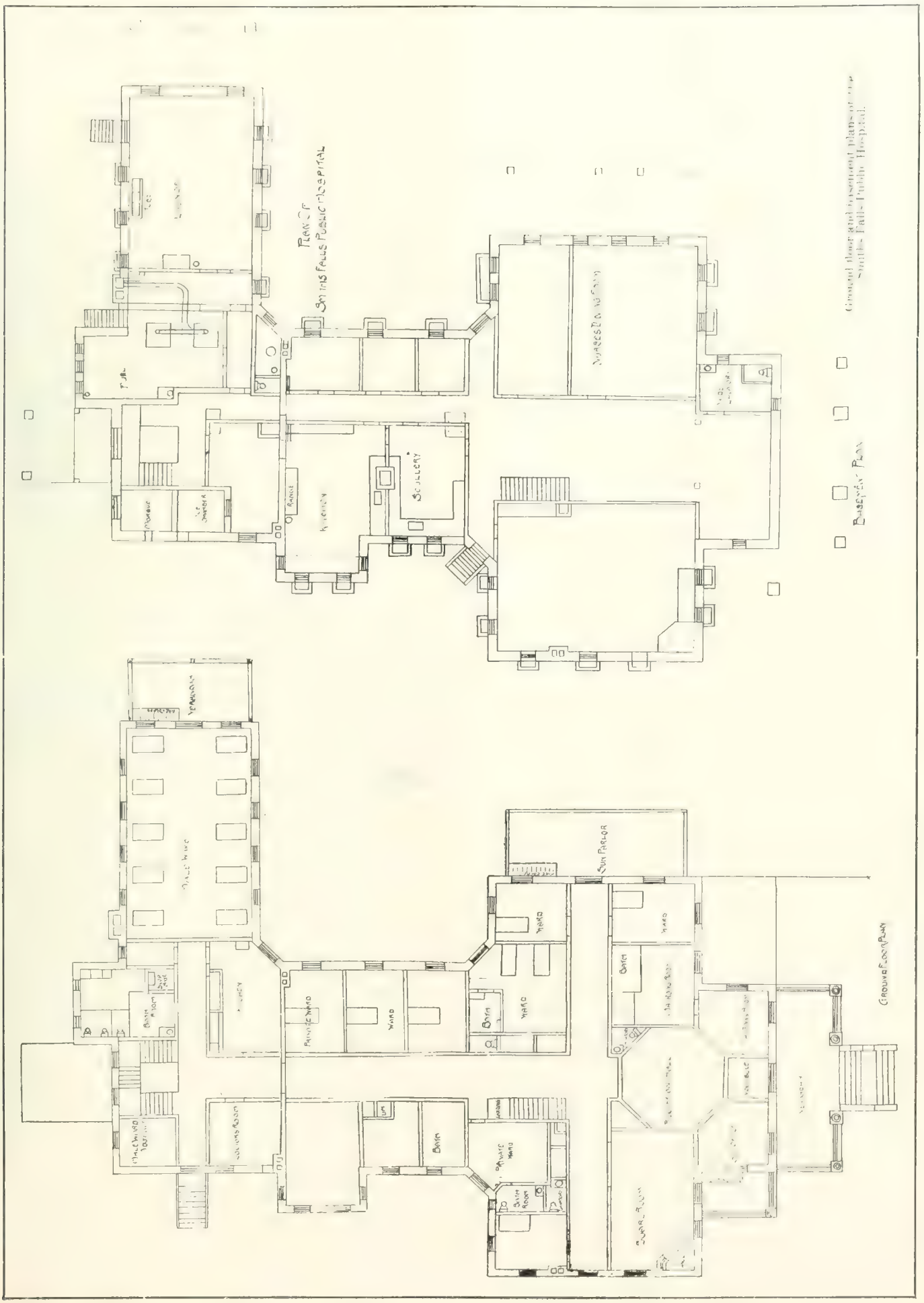
The builders of Hamilton, Ont., are feeling the scarcity of money. There is no financial stringency, but the amount of money out on loan is so large that loan companies will lend money only on first-class brick dwellings and then charge seven per cent.

It is understood that at least 900 homes will be erected in the east end of the city during the coming year, involving an expenditure of over $1,000,000.

With the threatened scarcity of money, the increased cost of materials and the difficulty that is likely to be experienced in getting sufficient labor, it looks as if the builders will be up against a pretty stiff proposition. Fortunately the open winter has been a big help to many of them in cleaning up jobs that otherwise would have to stand until spring.



Floor plan of the Smiths Falls Public Hospital


PLAN OF
SMITHS FALLS PUBLIC HOSPITAL
BASEMENT PLAN
GROUND FLOOR PLAN
SUN PARLOR
WARD
BATH
SCULLERY
KITCHEN
PRIVATE WARD
OPERATING ROOM
BATH ROOM

Building Permits for February and First Two Months of 1913

	Feb., 1913.	Feb., 1912.	Two mos. 1913.	Two mos. 1912.
Berlin	$ 17,000	$ 7,500	$ 65,950	$ 15,550
Brantford	8,240	6,150	26,615	42,875
Chatham	2,650	2,400	9,330	2,400
Guelph	10,795	11,300	17,145	11,950
Halifax	6,500	10,160	21,100	14,295
Hamilton	152,500	120,700	304,000	265,500
Kingston	2,100	820	7,515	930
London	22,945	15,585	36,855	34,302
Montreal	647,967	467,220	1,106,297	739,718
Ottawa	107,850	107,350	198,950	185,485
Peterboro	7,500	1,135	12,900	4,170
Preston	15,450	29,000	15,450	29,000
Sydney	4,115	3,400	6,020	4,750
Toronto	1,549,210	1,333,915	2,825,294	2,108,080
Welland	12,425	8,615	27,735	16,350
Windsor	17,025	34,900	42,950	57,400
Brandon	35,500	8,732	37,500	9,732
Edmonton	250,485	212,850	492,300	296,450
Fort William	296,000	42,700	569,700	498,150
N. Westminster	191,735	112,650	225,460	223,938
Port Arthur	2,725	285,050	10,375	300,180
Prince Albert	4,200	8,425	9,150	8,425
Red Deer	18,700	11,000	20,400	12,450
Regina	181,200	66,450	252,600	89,630
Saskatoon	102,000	69,700	170,420	83,580
S. Vancouver	103,000	223,387	163,000	380,462
Swift Current	53,073	5,599	395,052	9,969
Vancouver	1,033,554	1,200,740	2,983,598	1,901,117
Victoria	358,950	1,671,070	772,430	1,990,955
Winnipeg	725,800	821,060	1,107,900	1,170,460
Yorkton	13,150	7,750	18,250	7,750
Total 16 East	2,604,272	2,160,250	4,732,906	3,532,755
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	$5,975,344	$6,907,413	$11,952,041	$10,516,003

Maisonneuve, Feb., $103,706; total Jan. and Feb., $191,700. Dauphin, Feb., $12,000.

(Courtesy of "Financial Post.")

City Transportation Discussed by Montreal Builders' Exchange

The members of the Montreal Builders' Exchange met at Cooper's Restaurant on February 27, and discussed "Transportation of building materials by the street railway freight cars." Mr. R. L. Werry, the secretary of the Exchange, said that the subject was of great importance to all interested in the building industry. If the Street Railway Company was prevented from carrying freight the result would be a tremendously increased burden on the builders, and thence on to their clients. To estimate the cost of work, it was necessary to know what would be the outlay for haulage, and at the present moment contracts were being held up owing to this uncertainty.

He had never heard of any congestion of the freight cars. These freight cars had occasionally met with accidents and caused a little delay, but the responsibility for general congestion had never been placed to the presence of the freight cars on the line. The freight cars were not on the lines during the congested hours of the day—coming out of the yards at 7 o'clock in the morning and being home again at five o'clock, while the big rush of the day after that evening hour.

The contractors had no desire to interfere with the transportation facilities for passengers. They were citizens first and contractors afterwards. He thought the general problem could be settled by "getting together."

He proposed to address a series of questions to the Street Railway Company, asking them, among other things, whether they would be able to carry freight without interference with passenger traffic. He proposed requestioning them to endeavor to come to some arrangement with the city before the spring building operations began. This was an important thing. Buildings costing $40,000,000 were contemplated in Montreal, including 35 big office buildings, and if the company's right to carry freight was withdrawn the cost of these buildings would be increased by probably $500,000. The city also stood to suffer loss for they had made appropriations amounting to $3,500,000 for permanent paving and without the facilities offered by the Street Railway, they would find cartage charges exorbitant. He had been informed by the M.S.R. that sidings, and switches would come along naturally, and good conditions, with mutual understanding, would follow if only an opportunity of proper working was given.

Toronto May Build Model Houses

The City Council of Toronto, at one of its recent sessions, adopted the principle of erecting model houses on land acquired by the city for the purpose within or without the municipality owning and disposing of such houses and the necessary land, and lending the money raised by the plan to persons, firms or corporations for the purpose of building of houses, upon such security as may seem advisable to the Council, the corporation guaranteeing the bonds of any company incorporated for the purpose of erecting such houses.

Canadian Builder Representatives to Tour The West

Early in April, Mr. John A. Gibson, representing "The Canadian Builder" and Mr. Gordon C. Keith, editor of that paper, will leave for their annual trip to Western Canada. It is Mr. Gibson's intention to spend some time in Winnipeg, while Mr. Keith will visit many of the growing cities and towns between Winnipeg and the Pacific Coast.

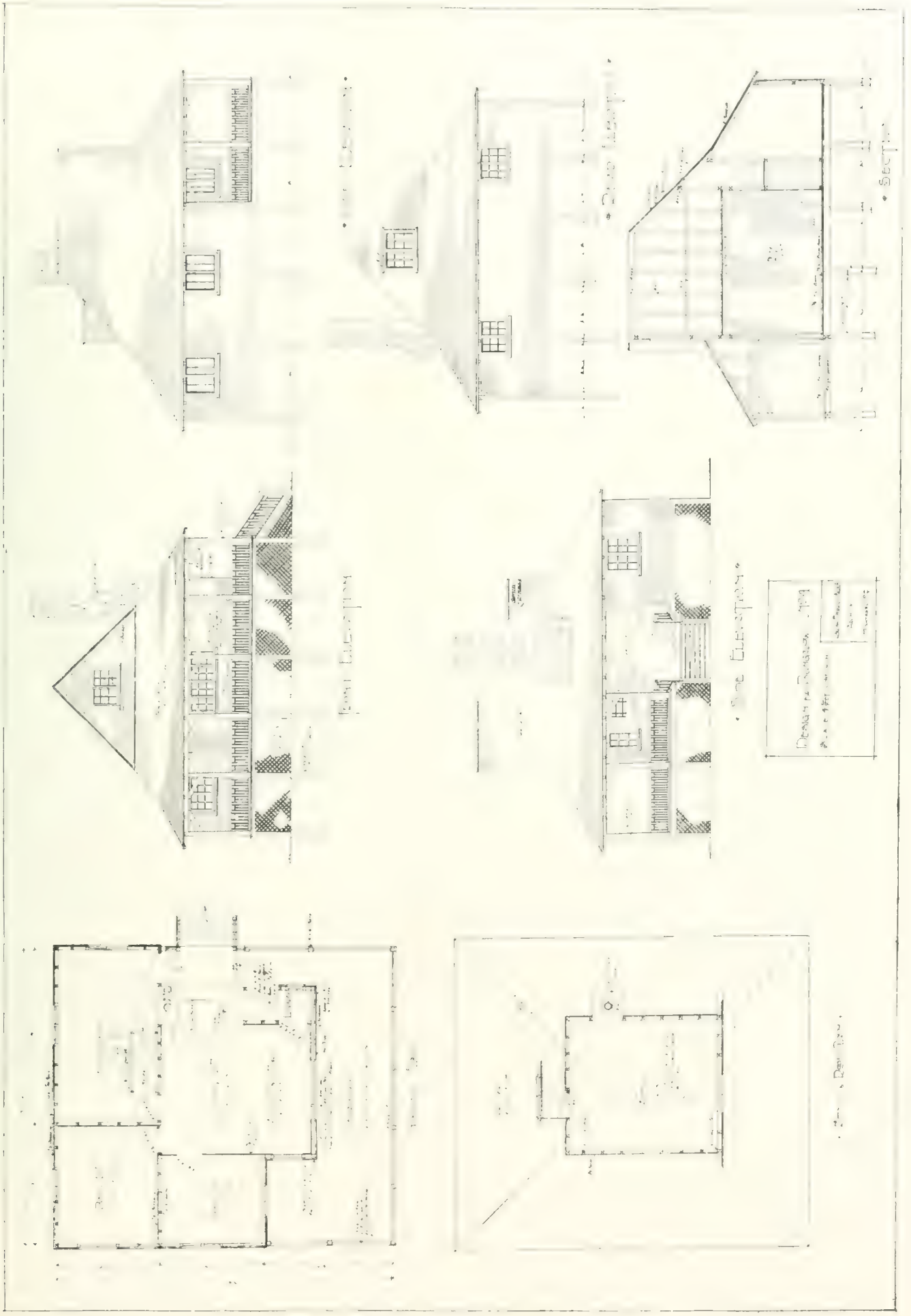
Designs for Summer Cottages

The accompanying drawings show designs of two summer cottages, the architect being Mr. Ralph Berrill, A.R.I.B.A., Montreal. Economy of space is one of the ideas in its design, and while they are shown supported on pillars, it would be a simple matter to erect them on brick or concrete foundations if these foundations were desired.

The cottage shown as No. 4 has a verandah, 10 feet wide, surrounding it. The entrance to the living room is through a lobby. The living room is 13 x 15 feet, a stone hearth is aa feature of this room.

Back of the living room is the kitchen where the stair to the attic is located. The kitchen is 10 x 17 feet and is under the verandah. The attic is 13 x 15 feet. Total dimension is 30 x 34 feet.

Another cottage is shown on the second page of plans with a total floor area of 31 x 34 feet. The living room is 22 ft. 6 in. x 12 ft. with fireplace, and kitchen is 10 ft. 6 in. x 9 ft. 6 in. Entrance to the living room is through a lobby. One bedroom on the ground floor is 13 ft. 6 in. x 10 ft., and another is 10 ft. x 8 ft. 8 in. In the attic there are three bedrooms 9 ft. 6 in. x 8 ft.; 11 ft. 6 in. x 9 ft. 8 in., and 11 ft. x 10 ft., and a trunk room.



Provincial Builders' and Supply Association Annual Meeting

The annual meeting of the Provincial Builders' and Supply Association was held in the offices of the Toronto Builders' Exchange on February 11th. Reports were read from the different centres represented, showing the progress being made in the building industry throughout the province.

The president's address was mainly a talk on forming local exchanges, from which representatives could be picked to form Provincial associations, and representatives from these provincial associations would form a Dominion or national body.

The representatives present were:

Ottawa—Messrs. Christie, Adamson, O. Boehmer and G. A. Crane.

London—T. R. Wright

Sarnia—Mr. Jenks, of the Sarnia Bridge Co.

Berlin—Caspar Braun.

Hamilton—Messrs. Nicholson and Murray.

The Toronto Exchange was represented by the general membership of the exchange.

Officers Elected for 1913.

The following officers were elected for the ensuing year:—President, Geo. A. Crane, Sarnia; 1st vice-president, Geo. Gander, Toronto; 2nd vice-president, T. R. Wright, London; secretary-treasurer, P. L. Fraser, Toronto Builders' Exchange, 2 Berti St., Toronto; Executive Committee: Sault Ste. Marie, W. F. Detweiser; Cobourg, A. L. Jex; Ottawa, A. Christie; Sarnia, W. G. Jenks; Toronto, Walter Davidson; London, Geo. S. Gould; Hamilton, W. Murray; St. Thomas, R. Sander; Stratford, J. L. Youngs; Woodstock, T. D. Broom; Brantford, P. H. Secord; Chatham, W. A. Hadley; Peterboro, James Bogue; St. Catharines, John Davis; Berlin, Caspar Braun.

It is the intention of the association during 1913 to greatly assist in the forming of local exchanges throughout the province by sending representatives from a district where there already is an association to places desiring to organize one. In this way much good can be accomplished and the industry bettered.

Montreal Builder's Exchange Annual Banquet

Mr. T. Gilday presided at the annual dinner of the Montreal Builders' Exchange on February 15, at the Windsor Hotel. Those at the principal table were Messrs. J. Ballantyne (ex-president), W. Rutherford, W. S. Maxwell, H. B. Ames, M.P., Mayor L. A. Lavallee, the Hon. T. W. Crothers, M.P., Lieut.-Col. A. E. Labelle, harbour commissioner, Lieut.-Col. C. A. Smart, M.P.P., Dr. J. Finnie, M.P.P., Mr. A. Chausse, building inspector, Mr. W. E. Ramsay, and Mr. H. Lauer.

After the loyal toasts, the chairman alluded to the objects of the Builders' Exchange, one being to bring into harmony architects, contractors, and workmen, recognizing that union was strength. Addresses were then made by Lieut.-Col. Labelle, who proposed the "Dominion of Canada," and by the Hon. T. Crothers, Minister of Labor, who replied.

Addresses were also made by Mr. H. B. Ames, M.P., Col. C. A. Smart, who proposed the toast to Montreal, and by Mayor Lavallee, who responded. Mr. W. Rutherford proposed "Our Cause," and spoke of the signs of a big year's trade. He also alluded to the harmony between the Exchange and the workmen, and said that Mr. Lauer had a special gift in arranging any difficulties. Mr. H. Lauer touched on three or four points of interest to contractors. There was the question of workmen's compensation, which they ought to get out of the arena of law, so that the money did not go into the pockets of lawyers instead of the workmen. He desired to see the extension of the Lemieux Act, in order to include the building and other trades; this would tend to the prevention of strikes, which were ruinous to both masters and men.

In regard to the Lien Law, he thought there was need of an amendment in Quebec, in so far as it applied to supply men. In their case written notice had to be given to the proprietor before supply men supplied goods to the contractor, and it was desired that the Act should be amended so that the right of privilege be given upon the building, providing that it be registered within thirty days following completion—thus falling into line with the rights of the workman and builder.

Mr. W. E. Ramsay proposed "Our Guests," to which Dr. J. P. Finnie, M.P.P., replied. Mr. W. S. Maxwell, vice-president of the Architects' Association of the Province of Quebec (who was introduced as one of the best architects in Canada), spoke of the good quality of Canadian stone, and wanted to know why terra cotta and high grade brick were imported. Addresses were also given by A. Chausse and James Ballantyne, ex-president of the association.

"Ideal Barn Plans" Catalogue

The Metal Shingle & Siding Co., Preston, Ont., have issued a new catalogue of barn plans which should be of interest to every builder interested in this line of work. The catalogue has incorporated plans designed as a result of a special study of barn framing as practiced through the provinces of Quebec and Ontario, and after examining many styles of timber as well as some plank frames.

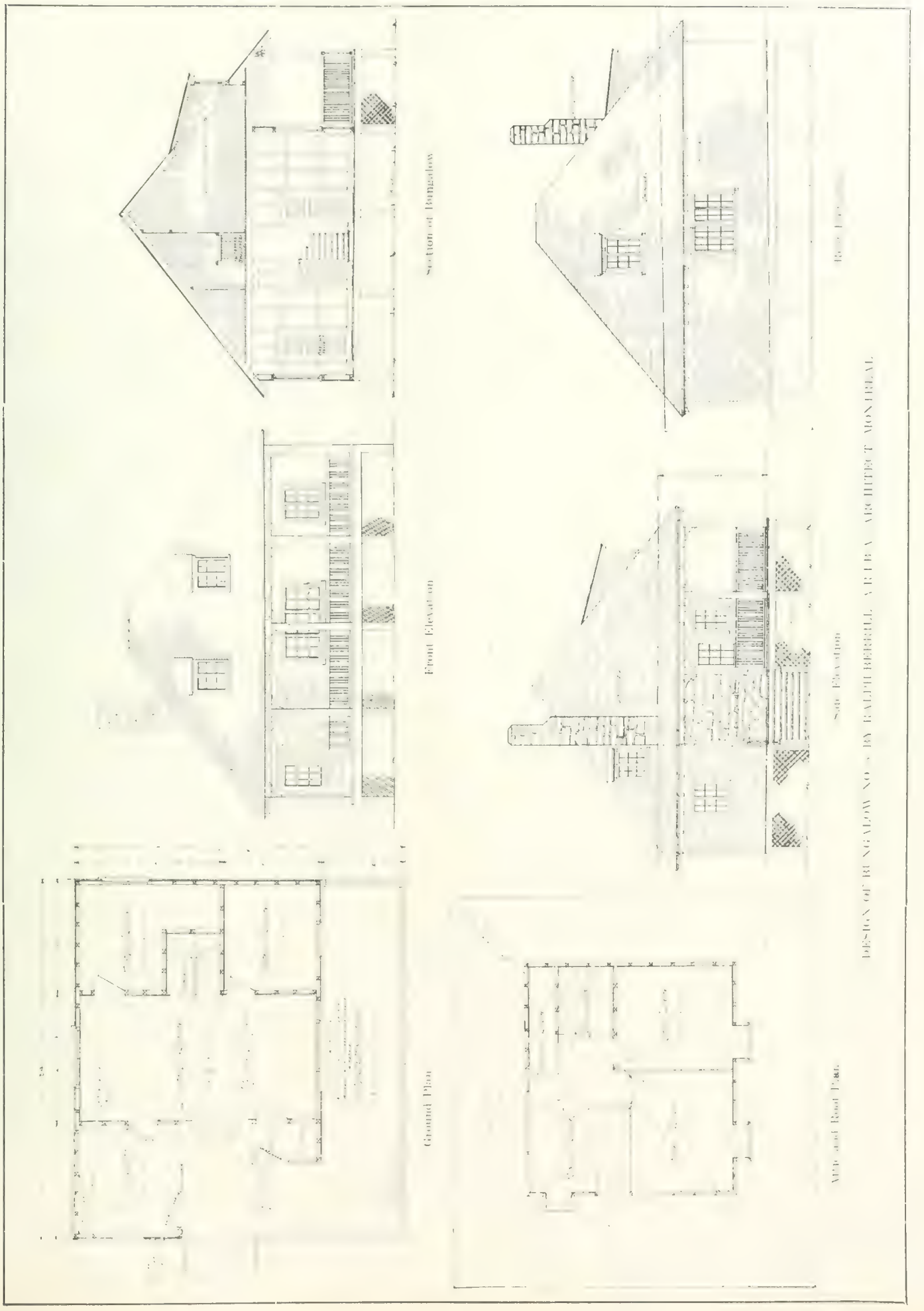
A very valuable feature of the catalogue is the publication of valuable plans, descriptions and costs tabulated from information procured in different parts of the country. For the convenience of those who wish to see one of these barns, one has been erected at Preston which may be examined by any Canadian builder or farmer. The data gathered by this company will be supplied to those requiring it. The catalogue may be had by writing the Metal Shingle & Siding Co., Preston, Ont.

New Catalogue of Georgian Bay Shook Mills

A new 1913 catalogue of stock designs of planing mill products has been issued by the Georgian Bay Shook Mills, Limited, Midland, Ont. It contains numerous illustrations of pine, oak, screen and storm doors, window sash in various designs, columns, pilasters, newels, "Royal Edward" stock designs for doors, windows, baseboards, etc.; stair and verandah materials; and "Squire Edinboro" special designs.

A complete price list is included together with the prices of extras for doors, joints, moulds, etc. Pages are devoted to sizes and descriptions of doors and window sash, and rules are given for grading and measuring hardwood flooring.

The catalogue is of value to builders generally and will be mailed to readers of The Canadian Builder by the Georgian Bay Shook Mills, Midland, on request.


Section of Bungalow
Front Elevation
Ground Plan
Side Elevation
Attic and Roof Plan
DESIGN OF BUNGALOW NO. 1 BY RALPH BERGER, A.R.I.B.A. ARCHITECT MONTREAL

Building in Edmonton

Building permits in Edmonton for January totalled $241,815, as against $99,750 for the same month last year. There are now unmistakable indications of a very active building season for 1913, and it is predicted that activities of the coming season will considerably exceed the 14½ millions of permits issued in 1912. Some recent announcements of buildings to be erected include; ten-storey store and office building, Jasper and Second, $350,000; Empire hotel, ten storeys, $350,000; Western Commercial Co., stores and offices, $80,000; Robertson Church, $100,000; 6 public schools, 76 or 80 rooms.

The following building permits for February and for four months, November, 1912, to February, 1913, inclusive, have been issued by the Inspector of Buildings for Edmonton, N. A. McIvor:

1	Apartment house	$30,000	2	$61,000
	Dairy	.....	1	20,000
51	Dwellings	85,600	292	695,070
	Churches	.....	2	9,500
	Curling rinks	.....	2	16,000
	Factories	.....	2	32,400
	Foundations	.....	2	1,300
4	Garages	700	14	23,805
1	Hotels	20,000	3	305,000
	Laundry	.....	1	4,000
2	Lumber yards	2,500	2	2,500
	Pump house	.....	1	500
1	Rooming house	2,500	1	2,500
	Schools	.....	5	138,900
	Sheds	.....	2	9,500
	Skating Rinks	.....	1	2,000
47	Small buildings & alt'ns.	15,910	106	151,677
13	Stables	5,475	64	25,720
8	Stores and offices	19,500	49	215,385
	Theatres	.....	1	2,000
4	Warehouses	62,700	19	194,460
5	Workshops	5,600	13	14,550
137		$250,485	585	$1,927,767

Building in Regina

The building figures for 1912 by months, and the figures for the corresponding periods of the previous year are shown below:

	1911.	1912.
January	$ 9,225	$ 23,180
February	67,975	66,450
March	545,025	539,850
April	562,490	664,045
May	1,036,190	407,415
June	716,025	1,048,830
July	602,115	1,068,319
August	303,625	1,004,390
September	425,700	531,210
October	674,740	326,125
November	75,000	271,670
December	70,000	1,995,825
Total	$5,088,110	$8,047,309

Building Activities in Medicine Hat

Estimates in hand show that $5,000,000 will be spent on factories and business blocks in Medicine Hat during 1913. This means a great influx of workers, and houses will be needed to accommodate the newcomers. The Western Construction Co., Calgary, will erect 100 moderate-priced homes this spring. The patterns are to be cut at the mills where the lumber is secured and will be put together at the place of erection.

L. P. Epstein, New York City, also will erect 100 houses and work will be started as soon as the frost is out of the ground. Hotson, Leader & Good are the contractors for Mr. Epstein.

E. B. Bennett, Medicine Hat, and the Westover Park Syndicate each will put up 25.

Building Permits Issued

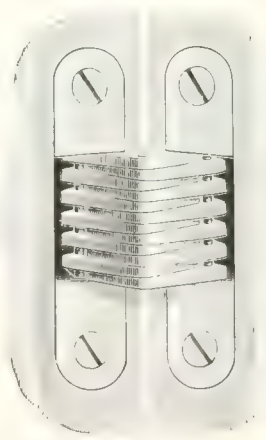
The building permits issued at Ottawa for the month of January amounted to $94,500. This is considerable increase over last year.

The building permits issued in Vancouver for January amounted to $1,950,440; for the same month last year they amounted to $750,377. This is an increase of $1,200,000.

The building permits for Vernon, B.C., in 1912 totalled $446,122, as compared with $202,982 in 1911.

The Soss Invisible Hinge

Builders and architects will find the Soss invisible hinge being placed on the market by the Soss Invisible Hinge Co., Limited, 104 Bathurst St., Toronto, an excellent article for use on panel work, lockers, built-in closets, in dens, kitchens and dining rooms; counter-flaps, partition doors, medicine cabinets in bath rooms;



New invisible hinge, manufactured by the Soss Invisible Hinge Co., Toronto.

and, in fact, on any work where the old butt hinge has previously been used.

This hinge is made of a composition metal and is strong and tough. It comes in various sizes and the largest size will fit any size door. Full directions are included with each pair. While it costs a little more than the old style hinge, it is particularly adaptable where high-class work is desired.

One very important feature about the hinge is that there is no projecting metal on either side of the door, and the hinge can be seen only when the door is open. Another good thing about it is its sanitary value, the design permitting no dust to accumulate on it.

Foreman Builder—Now, then, you: hurry up, can't yer! Laborer—Orl right, boss; Rome wasn't built in a day. Foreman Builder—No, p'r'ps not; but I wasn't foreman o' that job.—Punch.

A fireplace settle and built in bookcases.

Convenient and Artistic Built-in Furniture

By E. I. Farrington in Keith's Magazine

ONE of the surest ways of making a house attractive to possible buyers or to those who rent houses is to install a certain amount of built-in furniture. There are two obvious reasons. Built-in furniture adds materially to the charm of a room, while it lessens the amount of money which must be spent for portable furniture. This item is one which makes a special appeal to newly-weds.

When one is building a house to live in there is even greater reason for the use of built-in furniture, for it can be made to give distinction and character to any room and at comparatively small extra expense. Such features as built-in window seats, book cases and china closets offer splendid opportunities for novel effects, and in few ways can the individuality of the owner be more strikingly expressed.

Economy of Space of Built-in Furniture.

Builders of apartment houses and bungalows alike find that a decided economy of space may be secured by means of built-in furniture, and without any sacrifice of comfort or appearance. This is especially true as applied to the dining room, where built-in pieces may be used to better advantage than almost anywhere else, for the room may be made rather small and yet not be overcrowded and difficult to move about in.

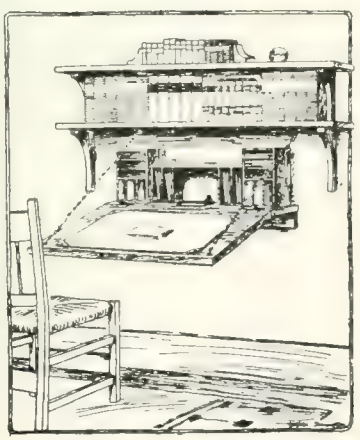
One of the least attractive pieces of furniture in the average dining room is the china closet, with its obtrusive display, its lack of dignity and its suggestion of ostentation. Built-in china closets, if properly designed, escape these faults. They are an integral part of the room, seem to belong there and do not force their presence upon one. If there happens to be a chimney extending into the room, as in one of the illustrations, the space at each side lends itself admirable to the construction of built-in china closets. The effect in this particular instance is especially happy. They harmonize nicely with the fireplace and provide an abundance of room.

Frequently it happens that a built-in china closet occupies a corner of the room. When a permanent affair of this sort is desired in a house which is already standing, such a location is often the only one possible.

Sideboard and China Closet.

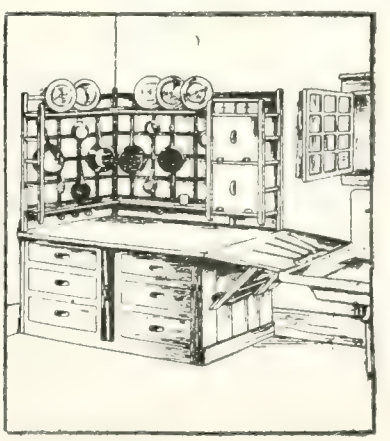
There is a growing tendency, especially in the case of bungalows, to build in the sideboard as well as the china closet. When this practice is followed, the floor space is left practically free except for the table and chairs. Formerly the expedient most commonly adopted by an architect to gain additional space in a naturally small dining room was the construction of a bay window. The plan of building in the furniture instead is now growing in favor.

The charm of building both the sideboard and china closet in the wall, makes itself felt at once. Both closet and sideboard should fit into the architectural and decorative scheme. With this arrangement there is not a discordant note anywhere, something not often found when portable furniture is used, unless, indeed, it is bought especially for the room and chosen with reference to the trim and decorative features. A pleasant feature is the elimination of much glass, which in



A wall desk with book shelves.

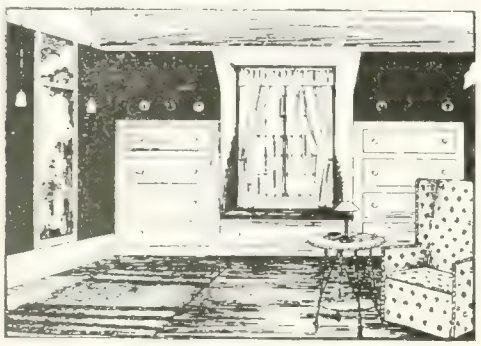
A colonial hall seat



A convenient kitchen arrangement.

the average china closet recalls the oft repeated statement of the "preacher" in the Scriptures that "all is vanity under the sun."

It is a popular plan to use paneling or wainscoting in the dining room, so that it becomes an easy matter to build the furniture into the decorative scheme. Although this practice applies more generally to the side board and china closet, a window seat is sometimes made an interesting feature of a dining room in the same way. A window seat of this kind is not only ornamental in the best sense, but is of real value on occasions when the hostess is entertaining and refreshments are being served. Guests are certain to find the built-in seat a delightful retreat. In this case, good judgment has been shown in filling the seat with a



Built-in seats for a bedroom arranged on each side of a window

well made cushion which may be taken out doors and cleaned, and the artistic sense of the architect is shown in the wide window ledges offering abundant room for plants, for a window seat of this kind is made doubly attractive if partly filled with potted plants.

As a rule, window seats are more common in the living than in the dining room. Placed in a window getting a good light such a seat becomes a favorite spot for those of the family who love books. Often a built-in book case may be constructed in connection with it.

Not infrequently a built-in window seat is made with a box underneath and a seat which may be raised. Such a box is convenient, no doubt, but it is important to have the seat project far enough in front so that the feet of one sitting upon it will not be found in uncomfortable contact with the box. In many cases, a single board supported by legs or brackets is to be preferred to the box construction.

Built-in Book Cases.

Built-in book cases are often found in living rooms and have both a decorative and utilitarian value. Many times a chimney extending into a room seems to invite the construction of book cases on each side. If there is a fireplace, the result usually is especially good. Another popular method of handling such a room is to build chimney seats into the corners around the fireplace.

In most houses the possibilities of building furniture into the bath room have been missed. In one house the bath room was supplied with two large closets, linen covers and a dressing table, the purposes of a dressing room as well as a bath room are served, although providing accommodation for bed linen, towels and the like, as well as a generous amount of closet room, comparatively little space in the bath room is occupied, and as the wood work is done in white enamel, there is nothing unsanitary about the arrangement.

Altogether, the opportunities offered by built-in furniture are too alluring to be overlooked by the house builder. They make it possible for him to really have much of his furniture built to order and in the best of taste.

The illustrations are used by courtesy of the Women's Home Companion.

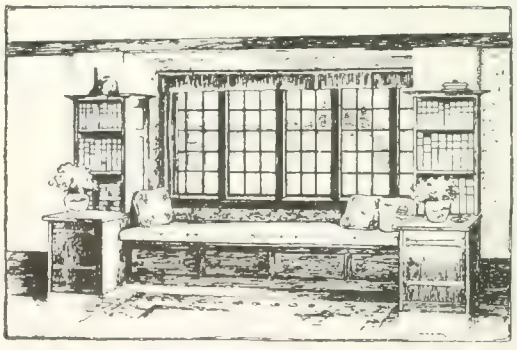
Shortage of Houses in Toronto

At a meeting of the Ministerial Association in the Central Y.M.C.A., Toronto, Rev. W. L. Armstrong discussed the "Housing question."

Mr. Armstrong mentioned that during the years 1909, 1910, 1911, and 1912 only 20,203 houses had been built in Toronto, whereas the population had been increased by 123,000 citizens.

Allotting one house to five people, Mr. Armstrong stated that 24,600 structures would be necessary, and since only 20,203 have been built a shortage exists of 4,397 houses.

This is a big shortage and the figures make it appear as if the builder could get much more business were he to go after it. But it must be considered that the increased population of the city is composed largely of immigrants who are making a start in this country and who cannot afford to purchase or occupy the class of dwelling the Canadian builder is putting up. The new arrival's ambition is to have a place he can call his own and, in most cases, he buys a plot of land in a district largely occupied by fellow countrymen



Built-in book cases and window seats arranged on each side of a wide window

and erects thereon a small one or two roomed shack. And this work is usually done by himself in spare time, so the master builder really does not get the benefit the figures quoted by Rev. Mr. Armstrong lead one to believe.

Civic Planning Scheme in Berlin

On March the 4th, representatives from the City Council, the Board of Trade, the Trades and Labor Council and other associations in Berlin, Ont., met together and formed a civic planning organization. The following officers were elected: President, W. H. Schmalz; first vice-president, W. H. Breithaupt; second vice-president, H. L. Janzen; secretary, J. T. Uttley.

It is expected that much good work will be done during the coming summer.

Seventh Annual Convention of Builders' Exchanges : :

The feature of this convention was the breaking up of the Association into Western and Eastern Districts in order to carry on work to better advantage.

THE seventh annual convention of the Canadian National Association of Builders' Exchanges was held in Calgary, February 18 to 20, 1913. There were about sixty delegates in attendance at the opening session representing most of the important cities of the Dominion, and the delegates include some of the most prominent building contractors of Canada. The proceedings of the convention on Tuesday, Feb. 18, were confined to the welcoming addresses by Mayor Sinnott, and responses by officials of the association, and the preliminary work of appointing committees, etc., preparatory to the real work of the convention. In the afternoon the delegates were taken to Ogden to see the car shops, and in the evening the committees prepared the work which was to be considered.

Convention Opens Feb. 18.

In the absence of President R. A. Brocklebank, of the Calgary exchange, the convention was called to order by Vice-President James Marr, who extended a cordial welcome to the delegates.

Response was made by George Gander, of Toronto, vice-president of the National Association. Mr. Gander referred appreciatively to the hospitality that had been extended to the delegates since arriving in Calgary, by the members of the local exchange and city authorities, and said he was sure all the visitors, since reaching Calgary, had worked at least time and a half. Amid much merriment, shouts of "Double time" came from the body of the hall.

"From what you have already shown us," said Mr. Gander, "and from the character of the hospitality you have accorded the visiting delegates, I am sure we all feel that you have not overstepped the mark when in the past you have given us glowing accounts of your city. You may be sure that as a result of this visit we will go back east and boost for Calgary. For my part, I have always felt that the upbuilding of the west meant much to the success of the east, and I am glad to see the builders of the west and east brought together, as I am sure the result will be mutually beneficial."

Mayor Extends Welcome.

"It affords me a good deal of pleasure," said Mayor Sinnott, in opening his address of welcome to the delegates, "to have the opportunity for a second time this morning of welcoming delegates to a convention in Calgary. Already during my period as chief magistrate of Calgary it has devolved upon me to welcome delegates to a number of conventions held in the city, and I feel that this is going to become a great convention city.

"There is one particular in relation to the building of the cities of Canada which I wish to refer to as meeting particularly with my approval. That is, that we do not have sky scrapers in Canada while the construction of the buildings in our cities is of the best. I have travelled extensively throughout Canada and the United States, and have seen their tall buildings on the other side of the line, and I am frank to say I do not like the system as compared with ours. In New York I had my attention called to a building of great height, in which, I was told there were more people than in many pretty fair-sized towns. That was an evidence to me that the tall building does not prevent crowding or prevent slums, and I do not think anything else would justify them."

President J. W. Morley, of the association, replied to the address of welcome, expressing the appreciation

GEORGE GANDER, Toronto
President Eastern District Canadian National Association of Builders Exchanges

L. H. MARTIN, London
First Vice President Eastern District Canadian National Association of Builders' Exchanges, and President of London Builders' Exchange.

of the delegates and wonderment at the great growth of the city since he was last here.

As Mayor Sinnott retired from the hall, the delegates arose and sang "For He's a Jolly Good Fellow."

President's Annual Address.

President Morley then delivered his annual address. He referred to the growth of the association since its organization seven years ago, and said that only a few cities were represented at that time, while now nearly every city of importance in Canada was represented by an exchange. He felt that the builders in the exchange had profited by organization, and as all builders, whether members or not, reaped the benefits growing out of the organization, he felt all should come in.

In the absence of J. H. Lauer, P. L. Fraser, of Toronto, was elected secretary pro tem.

Convention Committees Appointed.

After the reading of the credentials of the delegates, the committees of the convention were appointed. They are as follows:—

Credentials—A. J. Singley, Calgary; F. Hinds, Winnipeg; Charles Bulley, Toronto; G. A. Crain, Ottawa; L. H. Martyn, London; J. H. Miller, Edmonton.

Resolutions—George Gander, Toronto; W. J. Davidson, Winnipeg; Geoffrey Silvester, Calgary; August Boehmer, Ottawa; George Powell, Regina; Alex. Smith,

Lethbridge; C. R. Frost, Edmonton; Elmer Holmes, Prince Albert; D. Shannon, Saskatoon; Roy Norton, London.

Legislation: W. P. Alsip, Winnipeg; James Marr, Calgary; G. W. Britnell, Toronto; L. H. Martyn, London; G. A. Crain, Ottawa; W. R. Talbott, Regina; R. Grant, Edmonton; Elmer Holmes, Prince Albert; D. Shannon, Saskatoon; James Glenister, Lethbridge.

W. J. Davidson, of Winnipeg, gave notice that later he will introduce a resolution to provide for dividing the association into two units, one for the east and one for the west, the officers of each to constitute a national executive to meet once a year to pass upon any matters of federal importance.

Mr. Crain, of Ottawa, also served notice that he would present resolutions on the same subject.

The convention then adjourned to 9.30 Wednesday morning.

Thursday, February 19.

A great amount of business was disposed of at Thursday's session. Among other things, three important and very interesting papers were read.

A Uniform Building By-law.

H. W. Sylvester, city building inspector, read a paper on "A Uniform Building By-law." One of the most vital questions of the day, he held, and one that received the least attention, was the question of town planning not for the present, but a century hence. By the adoption of a uniform building by-law the cities would further town planning effectively. It would mean municipal economy. The history of the development of a building code is that generally its adoption has had to follow some great disaster. Perhaps the most important point in building code is housing and sanitation, and it would be a measure of public safety if it would provide for control for building large structures with a view to safety and fire protection. It would be merely a legalized safeguard to protect the people against themselves.

A uniform building code throughout Canada would provide buildings that would be safe. Such a code would be of great benefit to all municipalities. Mr. Sylvester predicted that such a code will be adopted in the near future and such a code is now in course of preparation.

Another point in favor of a uniform building code was that architects, contractors, and even workmen would know what was required and that the same class of workmanship would be insisted on everywhere. Such a code would also improve the standard of material.

Fire protection was a most important matter. The annual fire loss in lives and money was very great, and much of this loss could be averted and a great saving made in insurance rates by properly constructed buildings everywhere, which would be insured by uniform and improved building. Permanency of cities would also be assured by the erection of fire proof buildings which would be widely adopted if uniform building were in vogue.

Would Raise Duty on Stone.

A resolution was moved by G. A. Crain, of Ottawa, and adopted, petitioning the Government to increase the duty on dressed, turned and planed stone, the duty on rough stone or stone sawed on only two sides to remain as at present.

A vote of thanks was extended to T. B. Kidner for his paper.

George Gander moved a resolution which was adopted urging contractors to employ as many apprentices as possible and pledging support to technical education.

Dr. A. M. Scott, superintendent of Calgary schools, being invited to address the convention, said that the "three R's" (reading, writing and arithmetic) were hardly sufficient, and that technical training should be given.

Major Duncan Stuart read a highly interesting paper on "The Mechanic's Lien Act," followed by a discussion of the suggestions made.

A resolution petitioning the Government to reduce the duty on cement by one-half as was done last year, and to keep that portion of the duty removed until the factories of Canada were able to supply the demand, was read and adopted.

A proposal to petition for legislation to tax transient contractors coming to Canada to take contracts, was laid over to this morning for consideration.

A resolution petitioning the department of trade and commerce to use its endeavors to secure the adoption throughout Canada of a uniform lien law, was introduced and after discussion, was laid over to Thursday morning for the purpose of requesting Major Stuart to appear before the convention and advise as to whether anything would be gained by adopting the resolution.

The usual votes of thanks were passed and then convention adjourned to 9.30 Thursday morning.

The delegates were entertained Thursday evening at a theatre party at the Sherman Grand.

Thursday, February 20, Session.

The Thursday morning session opened by President Morley presenting his annual report, orally. He said the year had been very prosperous and the association was steadily growing in strength, the membership was increasing and the financial situation was good.

George M. Lang, the well-known architect of this city, read an interesting paper on "The Relations of Architects and Contractors in Legislation." Mr. J. H. Miller, of Edmonton, presented a paper on "Organization."

Ontario Builders' Exchanges.

George Gander, of Toronto, vice-president of the association, reported for Ontario. He told of the work of the Ontario Provincial Association and said one of its principal works was an endeavor to get a better Workmen's Compensation Act. He said that the Toronto exchange had added eighty-five new members during the past year and any trouble that had been experienced, had been from lack of materials. He spoke of the large number of mechanics who came west and said the east didn't want the west to steal their men. He admitted wages were not as good in the east as the west, but said that if the west treated the men as well as they were treated in the east and paid them better, he thought the east had a kick. He thought that men do not work as well as formerly and that it was difficult to get as good work from them. He thought something should be done to wake them up.

The Alberta Builders' Exchange.

C. R. Frost, of Edmonton, reported for the Alberta Provincial Exchange, as follows:

"The principal questions considered at the second annual convention held at Lethbridge in March, 1912, were a Uniform Contract Form for Alberta. Amend-

ments to the Mechanics' Lien Act and Liability Insurance, and I am pleased to state that our delegates, together with a delegation from the Alberta Association of Architects, were successful in drafting up a splendid uniform contract for Alberta, which was adopted by both organizations.

"During the interval since the convention held in Lethbridge, the various affiliated exchanges have been considering amendments to the Mechanics' Lien and Workmen's Compensation Acts. During the early part of 1912, the Calgary Exchange had certain amendments drafted to the Mechanics' Lien and presented to the provincial cabinet, but I regret to state that, to my knowledge, no action was taken by the Government toward the amending of the act. But we propose this session of the Legislature, to present amendments which will have the endorsation and support of all the Alberta exchanges.

"The Edmonton Builders' exchange had amendments drafted to the Workmen's Compensation Act. These were presented to the Provincial Government in 1910, 1911, and the first part of 1912, but these have in every case met with a similar fate as that of the Mechanics' Lien. In connection with the Workmen's Compensation Act, it is impossible for an employer to fully protect himself by insurance, as the Act now reads, against permanent disability. The risk is less hazardous where the injury results in death than if it were permanent disability, for such an injury leaves the employer liable for an amount not exceeding $10 per week as long as the employee shall live, whereas if the injury results in death the liability does not exceed $1,800. According to the act the former can be demanded, and no insurance is available to cover such an indefinite liability. Therefore, we hope to see the Provincial Government at this session take, at our solicitation, such measures as will be necessary toward the amending of this Act, and by so legislating or amending this unjust clause of the Act, together with the other clauses, the same as those already drafted, the employers will then be enabled to operate with a knowledge that they are being protected by so doing; whereas at the present time, the liability is without limitations.

"The Alberta Association of Builders' Exchanges, is being held in Edmonton Monday and Tuesday, Feb. 24 and 25, when we hope to see the delegates in attendance unanimously endorse each and every amendment to these acts.

"We also propose to consider the adoption of a 'uniform sub contract form' for Alberta, and I am well satisfied we shall be successful in this regard. The sub-contractors throughout the province have long felt the need of a good contract, and ere the Canadian National Association of Builders' Exchanges assemble in convention in 1914, I believe we shall be able to report that such a contract form was adopted at the convention held in Edmonton in 1913.

Manitoba Builders' Exchange.

W. J. Davidson, president of the Winnipeg Association, reported for Manitoba. He said that Winnipeg did $21,000,000 worth of building last year, and 95 per cent. of that work was done by Winnipeg builders. He spoke of building up exchanges, and said he thought care should be exercised to keep out undesirable people such as liability insurance men, etc., and confine membership to contractors and supply men.

He spoke of the effort to procure a better compensation Act, and said that upon the suggestion of the Government a committee composed of delegates from the manufacturers, builders' exchanges, and labor unions was engaged in preparing a draft of a bill which it was hoped would be satisfactory to all. He spoke of the tendency to discourage the development of building mechanics, and illustrated the difficulty of young men wishing to learn such trades in getting the opportunity. He thought that unless more masons and bricklayers ought develop. The bringing out from the Old Country of such laborers he thought would be good policy.

The speaker referred to the large number of members of the Winnipeg Exchange who are in the city council of Winnipeg, and said the city had also come to the association for a mayor. He thought that a pretty good evidence of the quality of men in the Winnipeg Exchange.

P. L. Fraser
Secretary, Toronto Builders Exchange, and Secretary of the Eastern District Canadian National Association of Builders' Exchanges.

James Ballantyne, Montreal
Second Vice-President, Eastern District Canadian National Association of Builders' Exchanges and retiring president of Montreal Builders' Exchange.

Saskatchewan Reports.

Delegate George Powell reported for Saskatchewan. Among other things, he referred to the creditable action of the labor unions in not demanding higher wages after the big cyclone a year ago, but said that later they demanded a raise from 67½ cents an hour to 75, and eventually a compromise was arrived at of 70 cents.

George A. Crain, of Ottawa, reported for the Ottawa Exchange, after which the report of the secretary-treasurer was read by P. L. Fraser, secretary pro tem. The financial statement showed a balance of $44 in the bank, with no outstanding obligations.

Annual Report of the Secretary-Treasurer.

E. T. Bank Building, Montreal, 1st Feb., 1913.

To the President, Vice-Presidents,
Executive Council and Members, C.N.A.B.E.

The year just concluded has established a new record for building construction, not only in isolated cities, but throughout the entire Dominion. As the building industry may be accepted as one of the surest barometers of commercial prosperity or depression, our Canadian builders and contractors may be permitted some feeling of pardonable pride in their contribution to the permanent assets of the country during the past twelve months. Although the subject is a big one, and our space limited, a brief review of what has been accomplished in the year 1912 may not be amiss.

Construction in Canada.

In accordance with a report published by a well-known building journal of Toronto, the following are the stated expendi-

tures on construction in the first twelve cities of Canada last year:—

Cities.	Value, 1912.	Percentage Increase.
Toronto	$ [illegible]	12
[illegible]	[illegible]	36
Calgary	[illegible]	58
Montreal	[illegible]	55
Vancouver	[illegible]	16
[illegible]	[illegible]	295
[illegible]	[illegible]	104
Regina	[illegible]	48
Saskatoon	[illegible]	64
Hamilton	4,491,800	29
Port William	[illegible]	37
Ottawa	4,621,850	24

The statement omits [illegible] which, some of the principal cities and towns of Canada, and figuring only on this partial basis, we find the amount spent by them on buildings alone in 1912 to reach the huge total of $158,898,465. In 1911 these same cities spent $131,981,729 on buildings, which shows how rapid has been the progress.

Of the [illegible] it is interesting to note that [illegible] western cities, while Regina beat the whole [illegible] amount of money she spent on building in the month of December. Turning to the percentage of increase we find that Montreal beats Toronto. This city's building operations in 1911 showed an increase of thirty-five per cent., while the Queen City can boast of an advance of only twelve per cent. Port Arthur leads the whole of Canada in percentage increase, with a magnificent total of 339 per cent., Edmonton coming second with 295 per cent., Montreal [illegible] and Stratford (Ont.) fourth with an increase of [illegible] per cent.

Even these figures [illegible] than exaggerate the real expenditure of buildings. In the case of Montreal, for example, the "official" value of permits appears as $19,641,955, whereas this only represents the "city" only, exclusive of harbor and municipal works, amounting alone to six millions; Montreal appears also in the above list under three separate names—Montreal, Westmount, Maisonneuve; omitting other important suburbs [illegible] outlying portions of the metropolis. These again total $6,964,187, making the actual building operations of Montreal reach the respectable sum of $33,081,152. And even so, Montreal has a [illegible] shortage on moderate-priced dwellings. It is hardly realized that from 50,000 to 60,000 people come to the metropolis every year, without counting natural increase, [illegible] considerable.

The West is young and feels the thrill of youth; that is why it says and does [illegible] things. We all rejoice in its success; and while the percentage of advance in the East may not be spectacular, it is a source of satisfaction to record its solid progress. Thus the total construction throughout Canada in 1912 probably approximates 250 instead of 200 millions, and considered as a whole the returns furnish a record of splendid development and consistent growth in the large centres, and there is every indication of another big year to come.

Prospective Construction.

The year now started [illegible] with promise of even greater things than the records established by its predecessor. There is only one cloud on the horizon, and that is the shadow of renewed [illegible] in the Balkans. Happily the area of hostilities has been restricted until now by action of the powers; therein lies the great reason for hoping that the dangerous spark may not be projected from [illegible] the stupendous explosion of a general European conflict, which would spell financial paralysis [illegible] for years to come, and whose influence would be [illegible] felt even in the Dominion, owing to the large investment of foreign capital in this country.

The amount of work in prospect for 1913 is simply astounding in its magnitude. The first estimates for public works just tabled in Parliament [illegible] to 179 millions, exclusive of later supplementary items. The proposed expenditure favors no particular section, both East and West alike, the principal contractors [illegible] for harbor improvements, [illegible] including $1,500,000 for St. John harbor development, $1,500,000 for Quebec, $1,000,000 for Port Arthur and Fort William, $1,000,000 for the new [illegible] at Lauzon, Quebec, and half a million each for harbor improvements at Toronto, Vancouver and [illegible] the new terminal of the I. C. R. at Halifax, [illegible] to start work. Other heavy [illegible] a new Canada building in London, [illegible] building at Ottawa and [illegible] Government buildings. For the construction of [illegible] increased from $100,000 [illegible] $200,000 for the new Connaught ranges at Ottawa.

[illegible] additional big expenditures on railway construction. Nearly all important cities have some particular big undertaking in view. One of the most striking features is the great awakening in the Maritime Provinces, due in part to the Federal development of the eastern ports at St. John and Halifax, but also to the growing consciousness of their valuable inherent natural resources. The East has too long been passed by; large purchases of Halifax realty were completed only last week by a big Montreal syndicate; and it can be safely assumed that many millions will be there expended during the next five years. In Ottawa will be commenced the magnificent new Departmental Building. In Quebec and Montreal vast sums will be devoted to terminal developments. Toronto is to have its $2,400,000 record 20-storey skyscraper for the Royal Bank. The giant U. S. Steel Corporation has plans for a peaceful invasion of Canada, and is reported to contemplate a 25-million dollar expenditure for plant in the vicinity of Windsor, N. S., besides establishment of minor plants in Moose Jaw, under the title of Metal Specialties Limited, and M. J. Engineering Co. So much for a rapid review of construction; we will now turn to the work of the Association:

Organization of Provincial Associations.

The value of co-operation between the different exchanges in any one Province was realized long ago by your Secretary, when at the Winnipeg Convention he strongly advocated the formation of Provincial Exchanges to deal with purely Provincial matters, as local conditions and local legislative powers varied in each particular Province. At that convention a new by-law was drawn and approved, recommending such Provincial bodies still continuing under the jurisdiction of the national body, and thereupon was organized the first Provincial Association, that of Alberta.

At the last Annual Convention in Toronto the Ontario Provincial Association was formed, and during the past year a similar association has been formed for the Province of Saskatchewan. In fact the whole idea of the Canadian National Association was based upon the elastic constitution of the political system of Canada, wherein the combination of Federal, Provincial and local government allows free play and liberty to meet all possible local conditions and up to the present time this is without question the best constitution that the wit of man has yet framed. Already the Exchanges of Saskatchewan, Alberta and Ontario have learnt what the results may be when all work together. There are a number of reasons why a Provincial body can accomplish much that would be impossible for the Exchanges to attain while working separately or singly.

Your Secretary desires to refer at this juncture to the rumor started in certain trade journals that an attempt would probably be made at Calgary to break up the National Association into "East" and "West." I would respectfully submit that such action would be deplorable, as the Association would then cease to be "National."

The alleged antagonism between the interests of the East and West is far more apparent than real, and should be regarded with some suspicion as being rather a political catchword than as evidencing any real differences between the interests of the two. Those underlying causes which militate against the interests of the builder in the West will be found, on careful examination, to be precisely those which militate against the interests of those in the East; and conversely, what benefits the builder in the East will be found to also benefit the builder in the West.

One fruitful source of Western dissatisfaction during the past year was to be found in the shortage of building materials, and transportation facilities; but this should have caused no surprise in view of the unprecedented expenditures in Canada of over 200 millions for buildings alone; and that again is only one branch of the field, as there was corresponding activity in railroad and municipal construction. Nor was this strain upon the sources of supplies confined to Canada; the cement mills of England, Germany and Belgium were equally unable to cope with their foreign orders. As cement has been dragged into politics, it may not be amiss to briefly record a few facts; it was only in 1905 that Canadian production first passed the million dollar mark; in 1911 the record was 5,692,000 barrels, besides increased importations in spite of a general tariff of about 5? cents per barrel. Out of twenty-five mills operating in 1911, only eleven belonged to the Canada Cement Co., the "trust" of political literature; and out of eight mills since under construction, only one in Quebec belongs to it. Five of the active and three of the proposed mills are in the West, so that it is not a "sectional" industry. The problem of getting cement into the West is not likely to be as acute in 1913 as it was last year, as both the "combine" and the "independent" concerns have made great progress in the way of production and transportation facilities.

There has been the usual scarcity of brick, but the facilities are constantly increasing, and the West in this industry also

takes a good place, Alberta's position being debatable, evidencing that its people have energy as well as a desire for comfort; its actual production in 1911 was upwards of 58 million common and 10 million pressed brick. Manitoba gives a still greater output. In fact during the last 4 year period for which figures are available at Ottawa, the West gives notable evidence of manufacturing expansion, and we shall probably hear less of "reciprocity" in lumbering and other supplies as the years pass.

Legislative Matters.

"Uniform Contract" and General Conditions. It is satisfactory to report that after negotiations covering several years with the Architects' Association of Quebec, a uniform contract was at last adopted in May, 1912, by that body in conjunction with the Builders' Exchange of Montreal, and is now in general use. Your Secretary understands that agreements along similar lines have also been arrived at in the Provinces of Ontario and Alberta. The all important point is that contractors generally must insist on signing only the approved "uniform" agreements in their respective Provinces.

Duty on Imported Stone. Attention has already been drawn at the last two conventions in Winnipeg and Toronto, to the unjust conditions under which our Canadian quarrymen, stone cutters and stone contractors suffer, owing to the unequal competition of the American limestone and sandstone quarries, due in part to the unequal tariff between the two countries, which has proved totally inadequate to protect our native industry; and in part to unsatisfactory classification of imported stone, and the dumping of U. S. surplus production on the Canadian market at merely nominal valuation. Subsequent to the Winnipeg Convention, a delegation representing the quarry interests submitted a widely signed petition in March, 1911, to the late Government, receiving however but scant encouragement. The stone cutting and quarry section of the Montreal Exchange were not disposed to allow the matter to rest there; and with the advent to power of a Government pledged to "adequate protection" of basic native industries, went to much trouble and expense in preparing a more elaborate statement of their case in October, 1912, and presented a second and almost universally approved petition to the present Government early this year.

Briefly stated, the Canadian tariff on imported stone is 20 per cent. "ad valorem" on building stone, "sawn or dressed"; on marble and granite or manufactures thereof, 35 per cent ad valorem. It is evident that this is only a fictitious protection, as the value placed on the dressed product is purely nominal, being merely "quarry value" in Indiana, Ohio or elsewhere—not 20 per cent. on the prices with which the Canadian product must compete. But the American exporters [illegible] protective against Canadian duties, and the [illegible] at 20 per cent on [illegible] dressed imported building stone, [illegible] per cubic foot or [illegible] but at the merely nominal American valuations, our imports of stone so dressed, cutting stone, [illegible] from $1,500 in 1909 to $[illegible] in 1911, of granite "manufactures" from $1,900 to $[illegible], of marble, from $[illegible] to $[illegible], while our exports of all [illegible] correspondingly dropped from $[illegible] to $[illegible]. Total imports of all stone from the U. S. were [illegible] valued at $[illegible] in 1911. The only result of special duty on a percentage of "ad valorem" on an [illegible] natural, undressed quarry blocks.

For the matter of vital interest to the West as to the East, Government statistics report over sixty quarries in operation in the West alone. Canada has [illegible] from deposits, from the best granite quarries in Nova Scotia to the marble quarries of British Columbia, yet and covering Dominion to-day the noble buildings going up in every important city and town are only so many advertisements for foreign quarries, and tombstones erected over a native Canadian industry.

Reduction on Cement Duty. A movement is now on foot to induce the Government to permanently reduce the duty on cement by about one-half, to 6 cents per barrel. Canadian mills do not appear to have suffered any serious setback from the temporary reduction last summer, and a reduced cost to the consumer would no doubt tend to further popularize the rapidly increasing use of this product.

The Lien Law.—Legislation is rapidly approaching consummation in Alberta, where it is a live question at the moment. Full discussion will be cordially welcome at the forthcoming convention. There is considerable dissatisfaction at the existing Quebec law in so far as it affects suppliers of material, although in other respects it affords probably the best protection of any lien law in Canada.

Under the Quebec Code, the right of privilege upon the building exists, without registration of claim, for any debt due the workman and builder during the whole time of continuance of work; and with registration, provided it be registered within thirty days following completion; such right existing for one year only from date of registration.

Preservation of above principle is subject to the following conditions: (a) Notice in writing must be given, on before a witness, to the proprietor, by workman or laborer for each term of payment due and unpaid. (b) In the case of the architect and builder, such notice in writing must be made to the proprietor or his agent, within eight days of signing contract for the work; or if a sub-contractor, of the contract made with the chief contractor. (c) The supplier of materials must, be

Handsome stone and stucco residence of Mr. T. H. Sheppard, 115 Castle Frank Rd. Toronto.

fore delivery of same, give notice in writing to the proprietor, stating the amount and cost of such materials and the buildings for which the same are procured. Within three months following such notice, legal action to secure must be taken.

The present arrangement of supply men is to amend the latter clause in order to extend the thirty days' privilege of the workman and builder.

Annual Convention of Secretaries.—An excellent idea was started by the Detroit Exchange last September to assemble together the various Secretaries of Exchanges throughout the U. S. and Canada for a general interchange of views looking to the extension of the activities and benefits of the local Builders' Exchanges. The idea is excellent, and should be supported by the local executives in order to become a regular annual event.

Employers' Liability. Recent legislation throughout the world is strongly tending in the direction of regarding compensation to workmen for injuries caused during work as an employers' liability; that is as an "occupational" risk, practically irrespective of "contributory negligence." The subject was given full discussion at the Toronto Convention, and the final draft of the Ontario Commissioner, Sir W. Meredith, has not yet been made public; it is understood, however, to be in favor of grouping different classes of risks, and reducing the workmen's contribution to a minimum. There has also been considerable agitation in Edmonton for an improved law.

It seems to the writer that the only final satisfactory solution will be that of Provincial or Federal Insurance, founded on the German model, with proportionate contributions from the employer, the workman and the State, based on actual experience of the cost of accidents in each year, in order to prevent over-assessment; these individual contributions should include the establishment of a sinking fund, to avoid insolvency on the one hand and to allow for firms dropping out each year; State control should greatly reduce the cost of "compensation" to the employers, owing to the big leakage, estimated at 50 per cent., in the transfer from liability companies to the workmen. Procedure for the adjustment of claims should be as far as possible dissociated from ordinary law courts, in order to weed out the legal "ambulance-chaser."

And so far as the contractor is concerned, he should make it perfectly plain as to who pays for compensation insurance, by adding a special charge for the percentage paid as premium against accidents at the close of his tender, in order that owners may realize that compensation is henceforth a factor of cost to be reckoned with.

Industrial Disputes Act ("Lemieux Act").—The writer has previously had occasion to regret the lack of extension of the benefits of this Act to general industries. A somewhat lukewarm resolution was adopted at the last Labor Congress demanding the entire repeal of the Act. No doubt certain labor agitators and trouble-makers evince small affection for a measure which, at least in some industries lessens their power for mischief. Although the Lemieux Act is not infallible as a strike-breaker, it undoubtedly has proved of great value in bringing the disputing parties together and getting a plain statement of prevailing differences. The strike, as an economic weapon, is under universal suspicion; workmen have at last discovered, as in the case of the disastrous coal and railroad strikes in England last year, that although they might put the trade-machinery of Great Britain out of business, it was at the terrible cost of their own suffering wives and children. The Minister of Labor should have his hands strengthened and not weakened in still further extending the scope of the Act, as a means at least of informing public opinion, without whose support no movement can in the end succeed.

Personal Mention.

As I terminated my connection with the Montreal Builders' Exchange last May, I feel it my duty to respectfully tender my resignation as your executive officer at this convention. I do so with sincere regret, as my duties connected with the National Association have been largely a labor of love, and on its behalf I have travelled many thousands of miles. I desire in conclusion to extend my warmest thanks to the various Presidents and Officers for their willing co-operation and personal confidence, and bespeak for my successor the same kind feelings and support so generously given to myself during the six years past.

Respectfully submitted,
J. HERBERT LAUER,
General Sec.-Treasurer

Dividing Association Into Two Units.

During the reading of the report, G. A. Crain, of Ottawa, offered a resolution providing for a change in the constitution, or, as a matter of fact, of an entire re-organization of the national association. It proposed either a division of the National Association into two units, the executive of both of which should constitute a national executive to deal with federal matters, or a re-organization into provincial associations, with a national executive composed of delegates from the various provincial bodies. The resolution was referred to a special committee, which was instructed to bring in a report proposing a definite plan of action.

The convention then adjourned to afternoon.

George Gander, of Toronto, moved a resolution that fraternal greetings be extended to the clay workers in session in the city, and W. P. Alsip, a clay worker of Manitoba and delegate to the exchange convention, was appointed to convey the greetings of the convention to that of the clay workers.

At the opening of the afternoon session, T. B. Kidner, in charge of technical classes for the city, read a very interesting paper on the subject of technical education.

The re-organization of the Canadian National Association of Builders' Exchanges, by dividing it into eastern and western convention districts, was effected at the closing session of the convention.

The Western convention district will include the provinces of British Columbia, Manitoba, Alberta and Saskatchewan. The next convention for this district will be held in Edmonton at a time to be fixed later.

The remainder of the provinces of the Dominion will form the Eastern district, and the delegates for this district have not yet decided on a meeting place.

Officers of Eastern and Western Districts.

Officers for the ensuing year for both districts were chosen as follows:—

Western district—
President—W. J. Davidson, Winnipeg.
First Vice-President—City Building Superintendent, G. Sylvester, Calgary.
Second Vice-President—W. A. Wilson, Regina.
Secretary-Treasurer—A. M. Rose, Winnipeg.

Eastern district—
President—George Gander, Toronto.
First Vice-President—L. H. Martyn, London, Ont.
Second Vice-President—James Ballantyne, Montreal.
Secretary-Treasurer—P. L. Fraser, Toronto.

The foregoing officials from both the eastern and western sections will form the executive body and directing organization for the reorganized National Association. They will meet together at a time and place to be decided later at call. They will select their own secretary, who will preferably be an Ottawa man in order that he may be on the ground to watch legislation affecting the interests of the organization.

The most important feature of the afternoon, from a labor point of view, was the passage of a resolution whereby a special committee was appointed to look into the alleged labor shortage and co-operate with the Home Re-union associations in bringing workers from Great Britain. It was evident from the remarks of several of the delegates that they anticipate this action may provoke a fight with the labor unions, but they are prepared to go ahead with it. A number of the delegates made speeches declaring vehemently that there was a shortage of labor, and as a result of the shortage workmen were taking advantage to force wages to an artificial level.

Another delegate counselled moderation, pointing out that a wage amounting to from $1,000 to $1,100 a year in this country was not excessive considering the cost of living. He thought that the matter of bringing labor from the Old Country should be handled

carefully, inasmuch as any intimation that men were being brought out to reduce labor costs would have the opposite effect intended. If the high wages that are paid at present and good living conditions here were made known, that would be sufficient.

The committee appointed to take up the subject included the following delegates: Messrs. Fraser, Toronto; Paul, Regina; Rose, Winnipeg; and Rankin, of Calgary.

Among other resolutions of interest passed at the afternoon session were the following:—

Recommending the enactment of a uniform building code in the four western provinces as of immense benefit to builders and the public.

Petitioning all exchanges in the association to take particular care to see that all transient buildings and contractors were placed on the assessment rolls of the cities where they were doing work in order that they might bear their share of municipal taxation.

Requesting all architects to furnish all contractors, outside of the ordinary 1-8 inch scale drawing, all necessary scale drawings to exemplify work to be tendered on so that contractors may render intelligently.

Resolutions also were adopted specially thanking the Calgary Exchange for the entertainment afforded the delegates, and also thanking the press and trade journals for the publicity given the gathering.

Mr. J. W. Morley, of Winnipeg, the retiring president, was unanimously elected an honorary life president of the national association. A number of the delegates delivered eulogistic speeches concerning Mr. Morley's services, and the vote of thanks was followed by three rousing cheers and a "tiger," and the singing of "He's a Jolly Good Fellow." Mr. Morley replied briefly.

The convention was brought to a successful close last night with an elaborate banquet in Cronn's Rathskeller. More than one hundred delegates sat down to the feast, and the affair was a purely social one of good fellowship.

P. L. Fraser's Comments on Convention.

"The convention was a success and everyone was enthusiastic. The idea of dividing the association into two districts was merely to make it better for organization work, i.e., that they could go to the extreme east or to the extreme west. Previously the association only extended from Quebec to Alberta and neither British Columbia or the Maritime Provinces took part. For this reason it was thought there should be a division, and the eastern section would look after the previously-neglected Maritime Provinces and Alberta after the Pacific district. The idea was not to disrupt the National convention, for this will be held, probably not every year but every second or third year.

"The Calgary people were very lavish in their entertainment and made a spread of themselves."

"Exchanges Are Doing Excellent Work," Says Jas. Ballantyne.

There is no doubt in my mind, that the various local Builders' Exchanges are doing a lot of good for the building trade in this country, and cannot help but be doing themselves a lot of good through being connected with the Canadian National Association.

This association naturally keeps the locals familiar with everything that is going on throughout the Dominion.

As retiring president this year of the Montreal Builders' Exchange, which position I have held for two years, I must say that the Board, the Secretary and Assistant Secretary of this Exchange have done and they are continuing to do, excellent work for the building contractors in this city and vicinity, and from a few visits which I have made to other local exchanges, they are also making rapid progress, and, as stated above, all these united efforts of the locals, cannot help but mean the Canadian National Association one of the strongest associations of its kind in our country.

I would strongly recommend that all the members of the various exchanges throughout the country do everything within their power to assist their officers, never allowing themselves to get disinterested in the welfare of the exchange. It is only by our united efforts that we can bring each and every individual association up to the highest standard.

Although, one of the objects of the Builders' Exchange is to see that all its members get a fair remuneration for the amount of business that they do; there is no other business that I know of that carries with it as many risks for financial loss as the building trade, although we are trying to carry on these building operations at a profit to the members of our exchanges; this is not the only thing that the builders' exchanges throughout the country stand for. We are trying all the time to bring our buildings up to a higher standard for architecture, solidity and proof against fire, as far as it is possible to do so, and there is no doubt, when you look over all the large cities in the Dominion, that we have accomplished this to a very large degree, and, as time goes on, the principal cities of Canada may have their equal in other large cities and in other countries, but will have no superior.

Annual Convention Alberta Builders' Exchanges

The third annual convention of the Alberta Builders' Exchanges was held in Edmonton on Feb. 24 and 25, 1912. At this convention a demand was made for alterations to the Employers' Liability Act and Lien Law. J. A. Trimble, Medicine Hat, who presided, said it was absolutely necessary in the interest of the builders of the province that definite action be taken to secure amendment to existing legislation.

Mayor Short welcomed the delegates and G. Sylvester, Calgary, replied. Questions affecting rates of wages to be paid in industries came up and were referred to the resolutions committee together with representatives from each trade affected.

Tuesday afternoon the delegates were taken for an automobile tour around the city, and at night they were entertained at a banquet.

Election of officers for the coming year took place at the afternoon session on Wednesday. The new president is J. Trimble, of Medicine Hat; the vice-president is T. H. Miller of Edmonton; and the executive is composed of G. Sylvester, Calgary; Mr. Leader, Lethbridge; Mr. Worthy, Medicine Hat; Peter Rule, of Edmonton. Forty-three delegates attended the convention.

The next annual convention, it was decided, will be held at Medicine Hat.

Mr. J. Harvey Self, architect, recently of Toronto, has been elected by the Vancouver Public School Board as their Building Superintendent. Mr. Self was born and educated in Toronto.

The Canadian Builder
and Carpenter

A Practical Paper Devoted to all Branches of the Building Trades

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Editorial Comment

In this issue is given a full report of the seventh annual convention of the Canadian National Association of Builders' Association. An important move was made by forming eastern and western districts. The western district consists of British Columbia, Alberta, Saskatchewan and Manitoba, while the eastern includes the other provinces. This looks like a good move which will facilitate the work of the associations. In order that there will be no overlapping and full co-operation between the districts, the officials of the two districts will form the executive and select a secretary.

The interest the Mayor of Berlin, Ont., is taking in city planning, shows that the broad-gauge men in charge of civic government are realizing the benefits of city-planning. It is hoped the citizens of our towns and cities, generally, will take up the question. As Dr. McRae, recently put it in an address at Calgary: "In any city the aldermen must respond to public opinion, and it would be well for our future if citizens of all shades of opinion in other matters would grasp this question and show the right and necessary spirit to produce the best and most desirable conditions of living."

Are Builders Using Poor Material?

The Toronto Star publishes an interview with "a well known lumberman" in which it is stated that builders are using a poor quality of dwelling. It has been our experience that purchasers of houses get what they pay for, but there are no doubt cases where second quality lumber has been used. Builders should carefully inspect materials that go into the buildings [illegible]. It would be better not to take the contract than to be compelled to use poor lumber in order to make anything on the job.

In the reported interview the "well-known lumberman" said:—

"During Toronto's big boom of years ago," he said, "No. 1 hemlock was put into the houses which were rushed up. There was criticism of that at the time, but to-day the demand is for No. 2 hemlock and No. 3 lath. Time was when even No. 1 hemlock was looked upon with disfavor. It is not the best wood for building purposes, as it warps and twists. But No. 2 is much worse. It used to be burnt up. Why, in the days of the former boom, No. 1 could be bought for $5 per thousand at the mills, and No. 2 was not for sale. To-day, No. 2 hemlock is $15 per thousand feet at the mills, and No. 1 is $20.

"Then there's the lath. They have gone from No. 1 to No. 2, and from No. 2 to No. 3. The last-named stuff is just strong enough to hang together with nails. Till lately nobody would use it, but now it is a scarce article. I have no hesitation in saying that the lumber I have described is the rankest stuff that could be put into houses.

"People seem to think," he went on, "that a partially rotten piece of wood put into a house and covered over with lath and plaster will stay in that condition. It will not. The rot in it will spread and become worse and worse until the whole piece is weakened. How do they expect houses to stand up when such stuff is used in construction?

"I had an experience recently which put me wise to what is done. I was looking for an $18,000 house, and was shown over one at that price. Of course, I did not tell the gentleman selling the house that I was a lumberman. Well, sir, the floors were ready for the hardwood veneer, and what were they made of? Hemlock. In a little while it would warp and twist, and thus heave the hardwood above it. I went down into the cellar and looked at the foundation. Remember, it was supposed to be a fancy house. Well, that foundation was not even decently bound together. The man asked me if I would buy. I said I would think it over. I've been thinking ever since!"

Are Speculators Keeping Back Building Operations?

In a recent issue we published figures showing that houses were not being built fast enough in Toronto to house the growing population. The Toronto Star gives an explanation of this as follows:—

"Largely owing to the low assessment which permits speculators to hold vacant land for an advance, instead of putting it on the market, the price of lots is now so high that builders have to depend upon the house they erect for their whole profit. In turning over the property plus a new building, they do not calculate on making anything on the land. These conditions make it imperative to put up a building on which the profit will be considerable; result, poor methods of construction and limiting of building activities almost entirely to more or less pretentious houses. Modest homes do not involve a large enough profit to tempt the contractors."

A system of taxation that would not penalize the man who builds a house or a number of houses, would encourage builders to erect more medium-sized dwellings in our growing centres of population. A tax on land only or at a lower rate than buildings would induce the owner to put it to good use by erecting buildings on it. This method would remove congestion, would furnish houses for the increased population of growing cities and towns and would prevent land speculators from holding land to the detriment of the building trade.

Brick Work and Plastering

Standard Size Brick for Alberta

The size of brick has been a much discussed question whenever builders or clayworkers meet together. Last month the Alberta Clay Products Manufacturers' Association was organized at Calgary. One of the first acts of this association was to fix the size of brick as follows: Commons, 8 x 3¾ x 2½ inches; and facers, 8¼ x 4 x 2½ inches.

Pointing Brick Walls

When pointing up a crack in the mortar between bricks, it is necessary to cut out the mortar a little longer than the crack and about ½ in deep. This should be filled with a half-and-half mixture of cement and clean, sharp sand. In replacing cracked or broken bricks, great care should be taken to see that the brick is firmly bedded into the mortar on all sides, or the wall will leak and eventually settle in that particular spot.

Attractive Showroom of Black Buiiding Supply Co.

The accompanying cut illustrates the show room of the Black Building Supply Co., Limited, in the Mail Building, Toronto, where terra cotta work and high-class brick have been artistically arranged. The Turkestan, Bokhara and other bricks of fine texture and color on display, make it possible to secure many new and interesting effects in brick work for all classes of buildings. While brick has always been regarded as most satisfactory building material, it is only within the past few years that the wonderful variety in effects has been appreciated. With careful selection of the color and texture of the brick, combined with mortar jointings of suitable width, depth and color, most satisfactory treatment of any type of building can be secured.

The Black Building Supply Co also specialize in high grade paving and face brick, and have developed a growing business in these lines for all classes of building and fireproof work.

What Hard Wall Plaster is

Pure crude gypsum is the base of all plaster of Paris, and in turn the foundation of all genuine hard wall plasters.

Pure crude gypsum is hydrous sulphate of lime, with a chemical formula $CaSO_4 2H_2O$ which corresponds to a composition.

$$CaSO_4 2H_2O \begin{cases} CaSO_4 \begin{cases} CaO & 32.6 \\ SO_3 & 46.5 \end{cases} \begin{cases} 79.1 \end{cases} \\ H_2O \quad 20.9 \end{cases}$$

100.0

When pure gypsum is heated to the proper temperature in the process of manufacture a certain definite proportion of the water of combination is driven off leaving gypsum partially dehedrated, in the form of plaster of Paris. Plaster of Paris has a chemical formula of $CaSO_4 \frac{1}{2}H_2O$, or

$$CaSO_4 \frac{1}{2} H_2O \begin{cases} CaSO_4 & 93.8 \\ H_2O & 6.2\% \end{cases}$$

100.0

which indicates that approximately three quarters of the

An interesting and effective display of brick in the show room of the Black Building Supply Co., Mail Building, Toronto

water of combination has been driven off by calculation during manufacture.

Plaster of Paris has the valuable property when mixed with water re-absorbing chemically that proportion of water driven off during the process of dehidration and by a process of re-crystallization becoming again the identical gypsum from which it was made.

Ability to thus revert to gypsum gives to plaster of Paris its great value as the base or cementing material in the manufacture of hard wall plaster, which, when properly made, consists of plaster of Paris, a retarder to prevent the plaster of Paris from setting too rapidly to be properly applied and a binder of hair or other fibre. To this mixture is added usually on the work the proper proportion of clean sharp sand before application to the surface to be plastered.

The purer the gypsum from which the plaster of Paris and in turn the hard wall plaster is made the more satisfactory in every way the finished wall.

Hard wall plaster will always set if kept wet no matter how long it holds, keep it wet.

If the material holds too long before setting by letting the mortar lie in the mortar box for twenty or thirty minutes after mixing. Lying thus in the mortar box the material will have a chance to soak thoroughly and the set will be considerably hastened. But do not do this regularily it is only a help and may make the plaster set to fast.

Most plasters are made to set in one and a half to two and a half hours after mixing. If setting takes place too soon or in time less than this, either some carelessness has been overlooked in mixing or local conditions demand a slower setting material. The manufacturer should always be consulted in such cases.

Apply plaster thick enough to give it a body to hold water enough to set with. It's impossible to keep a thin coat of plaster wet enough to set if it's applied on dry lath, consequently soak the lath thoroughly and keep the walls damp.

Rules For Using Hard Wall Plaster

IF YOU are careless as to directions and the "Do's" and "Don'ts" of using plaster, hot weather will most certainly affect the work. ¶ But with just ordinary care the result, perfect satisfaction, is as sure as the rising and setting of the sun in any kind of weather. Plaster of Paris, the base of good hard wall plaster needs water to re-crystalize and set up to get hard, that is the whole thing to remember. ¶ Dry lath are trouble makers. Soak the lath thoroughly half an hour before beginning to plaster, especially over windows and other openings where the draught comes through. ¶ During the hot weather close all the openings in the building with cloth or by some other means to prevent the hot winds from drying out the walls before the mortar is set.

What to do in using Hard Wall Plaster

USE only clean sharp sand.

Be sure the water is clean and free from salt alkali or other impurities.

Have separate water barrel for washing tools.

Keep tools, mortar box and mortar board clean and free from dry or set up mortar.

Mix mortar immediately after sand has been added to the plaster.

Mix only an hour's supply of mortar at one time.

Apply mortar as soon as possible after mixing.

Clean mortar box after each gauging.

Look out for dry lath.

Soak dry lath thoroughly before plastering.

Keep lath wet over doors and windows as such places dry out first.

Sprinkle brick walls thoroughly before plastering they have great suction.

Don't use too much water in darbying.

When the plaster begins to set it will darken up before drying out. Keep walls wet by spraying or sprinkling if they seem to dry out before plaster is set.

Soft white spots when the wall drys out lack of water, insert plaster, dampen the spots and keep wet till set.

Keep wet wall from freezing for twenty-four hours after plastering.

Be sure all frost is out of the base coat before applying the finish.

Mix finishes thin and be sure boards, tools and water are clean.

In applying finishes, work top and bottom together, whenever possible, to avoid joinings.

When trowelling finishes use water sparingly to avoid killing the surface. Use judgement. Follow directions.

What not to do in using Hard Wall Plaster

DON'T fail to read and follow directions, that is what they are for.

Don't use dirty tools or materials, dirt is a poison to good results.

Don't forget that set up plaster or water in which plastering tools have been washed acts as a hastener, it will make your mortar set too quickly to be used properly or satisfactorily.

Dont't mix one gauging with another.

Don't try to retemper mortar which has begun to set, throw it away, its the cheapest way.

Don't mix partly set mortar with fresh material.

Don't forget to wet the lath, dry lath steal the necessary water from the plaster and the plaster dries out before setting and the lath swell and buckle and crack the plaster.

Don't neglect to see that the walls are kept damp until the plaster is set.

Don't try to plaster on a dry brick wall, it means trouble.

Don't blame the plaster if it doesn't set up when expected, keep it damp.

Don't over sand good mortar and expect a good job to maintain a reputation by so doing, cheap plastering is poor economy all round.

Don't condemn the plaster because something goes wrong, find the cause.

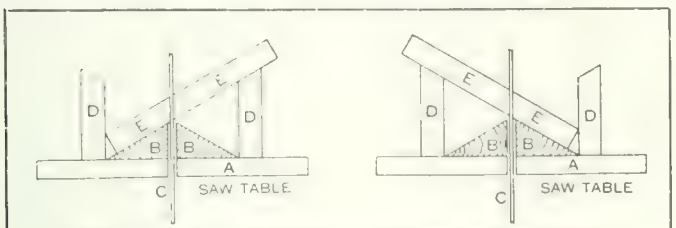
Don't fail to follow directions.

Carpentry and Woodworking

Sawing Beveled Strips

By S. M. Preston

I recently made a jig for sawing strips beveled both sides, that I have never seen described, although it may be old to many. A customer wanted some bats about 2 inches wide on back and 1 inch on face. I have no molder and my planer was set for flooring, with a lot to run. So he said if I could saw them beveled it



"Can be used in sawing strips for any mold requiring double bevel."

would do just as well. I had done this before, but only by sawing a strip off each edge of board, then turning the board end for end and sawing two more strips. There was about 3,000 feet of this lot, and that meant too much work.

After a little study, I developed the rig as shown herewith, which can be clamped on any saw table. A is bottom board, BB beveled center strip, C saw, DD beveled guide strips, EE board being sawed. The bottom board A is 10 or 12 inches wide and as long as the saw table. The beveled center strip B is same length, beveled to a feather edge and nailed in center of bottom board. This strip is given whatever bevel is needed to suit the bevel of the edges of the bats. After being nailed on the bottom board, both are run over the saw to give a cut at the apex of the bevel, about half way, for the saw to run in.

The guide strips D should only reach the center of saw, and must be just high enough so that a board being sawed will rest solidly on both the guide strip and bottom strip, when running against the other guide strip. These strips D are set the right distance from the saw to make the width of bats or strips desired, both the same, otherwise one side will saw a wider strip than the other. This forms a double guide, and it is only necessary to turn the board over and run against the opposite guide to get the opposite bevel. The first strip is square edged, but by running it against the other guide the bevel is made the same as the rest.

This device can be used in sawing strips for ogee, bats, astragals, or any mold requiring a double bevel. Often more strips can be made from the same board than if sawed square; also it makes it easier on the planer.—Wood Worker.

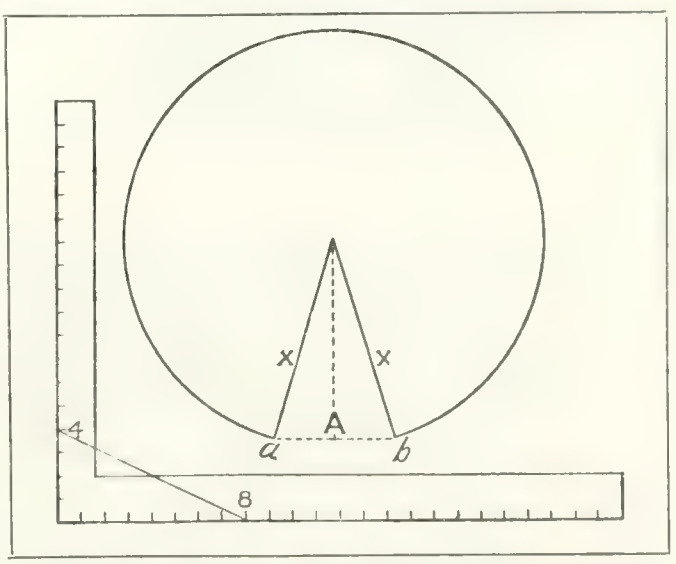
Wood Floors Over Concrete Slabs

Where a hardwood floor is required over a concrete slab, the common way is to lay bevelled screeds about 12 inches or 15 inches on centers, bed these in cinder concrete, over them lay a one inch or two inch rough floor, and on top of this lay the hardwood, ⅞ inch as a rule. The Aberthaw Construction Company, Boston, have laid an excellent hardwood floor by putting down ⅞-inch form lumber on top of the rough concrete, laid diagonally to the finished floor and on top of this nailing the hardwood. This was done on a Government job. However the boarding is to be laid, the hardwood is much better square edged than tongued and grooved. Where square edged, if the floor boards warp, the edges do not split. If repairs are necessary, a board can be taken out without ruining the floor around it, and it will be found that the boards will wear better when square edged than when grooved.

The boarding should be laid the way of the greatest traffic, that is, trucking should not run at right angles to the floor boards if this can be avoided. When the progress of traffic is definite it will pay to change the direction of the boarding where the turn in traffic comes. For wet floors do not use maple. Rift hard pine, which is full of pitch, is very much better.

To Cut for Pitched Covers

Suppose a builder or carpenter desired to cut a piece of sheet metal, paper or thin wood so that it may form a cone, or a cover for a vessel of some sort; say the pitch or height at centre is to be four inches, and the diameter of the base sixteen inches. Lay off the pitch on the tongue and half the diameter on the blade. The diagonal, from 4 to 8, as shown in the accompanying



illustration, gives half the diameter of the circle, to which set your compasses. Describe a circle as shown, draw a line from the center as shown, square off from A, on each side three-tenths of the radius, ending at a and b. The gore left requires to be removed, then when the edges X X are brought together the cone is complete.

The Materials For Making Fire-Proof Doors

Up to a few years ago, the term "fire-proof door" called up a picture of a sheet-iron door, held together [illegible] angle-irons. The builders argued that an iron door cannot burn, and that it would close automatically and thus shut off the endangered part of the building from the other sections. The truth established through numerous tests showed, however, that the sheet-iron door itself was no more proof against fire than a wooden door.

In addition, it must be remembered that a door for these purposes is supposed to shut out not only the fire but also all smoke. This is impossible with an iron door, for when attacked by the enormous heat in a fire, it is expanded and distorted, so that the door does not fit snugly into the door frame. Many of such doors are constructed with an automatic device which is to make them close mechanically in case of a fire. But what door would close automatically when it is twisted and warped by the heat of the fire? We have to figure, of course, with fires that spread rapidly, and demand instantaneous action on the part of the protective doors, for they are not necessary for other cases.

An improvement on the sheet-iron door was the so-called "Monier" system door, used extensively in Berlin and other German cities, which is made up of reinforced concrete faced in angle-iron frames. The trouble with these doors was that they had such an enormous weight that they injured the bond between the reinforced concrete slabs and the iron frame when the door was closed automatically in cases of danger. It was also found that such doors bulge and get stuck in the door frame so that they cannot be opened without the use of heavy prying tools. This is, however, such a serious drawback that the doors were soon abandoned by most builders. The same disadvantage was noted in the case of doors constructed of two layers of sheet iron with some insulating between them. The sheet iron bulged, and the insulating material was exposed to the influence of the flames.

Resistance of Wood to Fire.

Finally builders returned to the wooden door in combination with iron or steel. Wood is not as bad from the standpoint of fire safety as the terra cotta and other fire-proof material manufacturers would have us believe. It is a fact that charred wooden stairways have stood the strain of carrying ordinary loads and allowing passing of the usual crowd. Within recent times thoughtful contractors have gone back to the combination of wooden doors, using a hard wood, and facing the two sides with sheet iron. These have stood the test well and seem to be an improvement over any of the other tyes of fire-proof doors.

The wooden core is best constructed from hardwood boards laid crosswise against each other. This arrangement avoids a warping and drawing of the wood in the heat of the fire. The sheet iron is to protect the

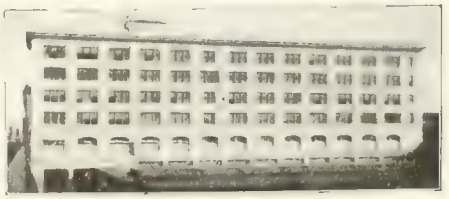
Some Prize Scraped Floors

In the last issue we gave the names of the winners of the floor scraping contest carried on by the Fox Supply Co., Brooklyn, Wis. Herewith are photographs showing the excellent results obtained. Builders are finding that the mechanical floor scrapers do quicker and better work than hand methods.

Second Prize, Jacob H. Gast

First Prize, Henry M. Martens.

Third Prize, R. M. Walker



Where third prize picture was taken

wood against the direct attack of the flames, whereas the wood is to prevent the distorting and bulging of the sheet iron. The door frames should be of solid angle iron or flat iron bars. The sheet iron should not be fastened to the wooden core with nails, as these do not give enough of a hold but rivets should be used, running through the entire thickness of the door.

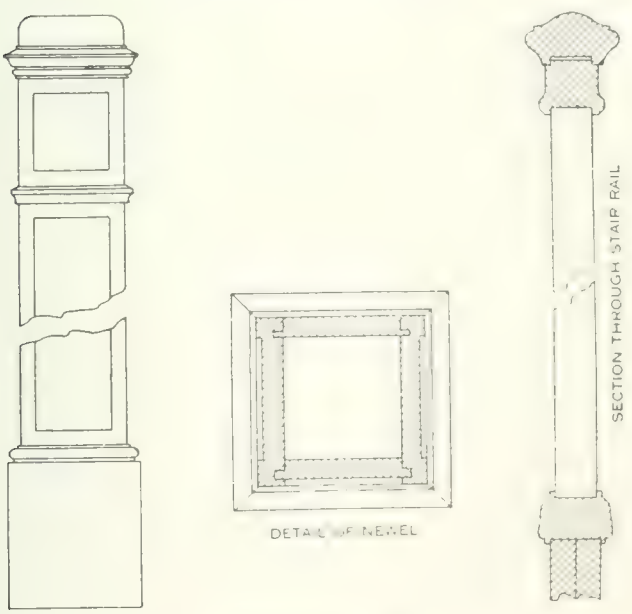
Where the door is of one single layer of upright heavy planks, it is essential to obtain a firm bond between the different planks or boards. The latest bond for this purpose uses iron bands in which one band covers the left side of the first board, then goes through the crack between this and the next plank, covers the right side of the second plank and then back again to the left side of the third plank, etc. Both sides are then covered with riveted sheet-iron plates. This is one of the safest constructions for this type of door and has stood the test in several bad fires.—Duetsche Tischler Zeitung.

Making Stair Work

By John Wavrek, Jr.

There is one department of mill work which is continually undergoing changes, some of which are for the better and others not quite so good as they were before—that is, in stair work.

Because of these different tastes it keeps the stair man continually on the jump to keep up with the requirement of the present changing styles. Where some



Details of Newel Post.

years ago the demand was for ornament and carving, it is now the extreme opposite. "Plain" is the watchword, and very plain at that. In the case of newel posts, the demand used to be for carving and turning, with many elaborate mouldings, dentils, etc.; this has evolved into the present severe plain design. The turned head and drop of many members has given way to the plain square cap and drop, with slightly rounded corners, sometimes carved a very little.

The stock out of which the shaft for newels is made is cut in short lengths out of 7/8 in. stock, and run through the molder, making the plow which forms the joint as shown in sketch. When the shaft is to be put together as shown, the cross-pieces are filled in, thereby forming a neat panel. The front and side sides are not plowed, you will notice. The front piece is simply set back the required distance to correspond with the side, and therefore has the same appearance. The back piece, where the rail strikes, is not paneled, but is placed flush. This makes a very neat and inexpensive newel post.

The stair railing, as shown, is made up of 3 inch stock, the top rail being in two pieces, making up a handsome rail which fits the hand nicely.—Wood Worker.

Thatched Roofs for Dwelling Houses

One of the latest tendencies in the architectural treatment of dwelling houses is to give them the appearance of being covered with thatched roofs, or at least roofs that look as though they were thatched. The effect is produced by using shingles of various lengths, the ends being cut diagonally and all fitted together so that as the ends meet they form continuous wavy lines. The effect is easily obtained and the added cost of such a roof so slight as to be a negligible factor. The effect is rather pleasing on almost any house, but it is especially so on a house having a roof of especially large area. By means of the shingle thatch the monotony of a large plain roof is minimized.—Building Age.

Saving Money With a Woodworker

*By William Hall**

In regard to the uses and benefits we have derived from a woodworker, let me say at the outset that we would not fancy doing any job now without our machine. The work is always A1 and it never develops that "tired feelings." We cut all short joisting, all studding materials, rafters, angle cuts in roof boarding where the stuff is short, and stropping.

For porches and verandahs, we cut beam stuff, rafters, mouldings, post stuff up to 4 ins., handrails, shoes, balusters, risers, steps and top and bottom cuts on step stringers. Comparing two porches exactly the same, the one done with the machine showed a saving of 37 per cent.

In window and door frames we do everything with the machine, except cutting in pockets and nailing the frames together, and have effected a saving in frame work of from 30 to 40 per cent.

In stair work we dadoe all strings, cut steps, risers, handrails, shoes, balusters, and even the filling pieces between the balusters. The saving is the same as in the frames. It varies according to the condition around the workmen and to the system, or lack of system in the manner of doing the work.

We cut up all trim and miter all head moulds, etc., on mantle trim and obtain a better job than when using a miter box.

Regarding cost, we have run on a minimum rate of $1.00 per month and have had four lights burning on an average of three nights a week for four hours a night. On the jobs our bills have run in the neighborhood of 65 cents on a straight charge for power.

* Of Arnott, Bett & Ball, carpenters and contractors, 30 Boultbee Ave., Toronto, who use an Elliot woodworker.

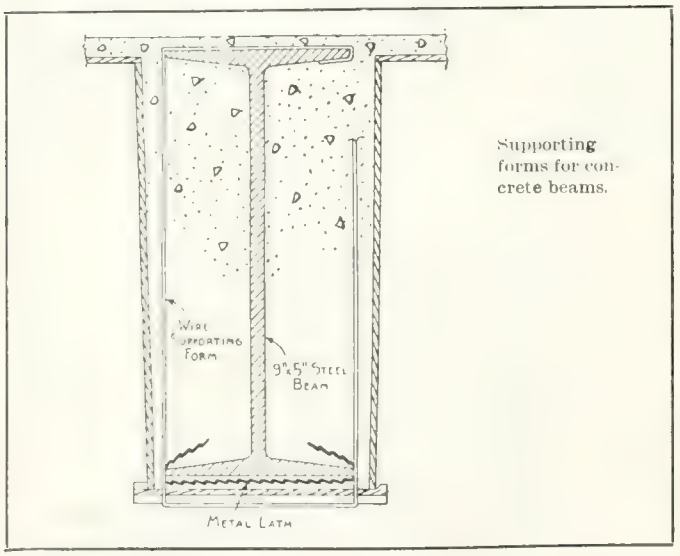
Concrete Department

Supporting Forms for Concrete Beams

From R. T. W., Montreal, Canada.—Will some expert on the subject tell me the gauge of wire or iron rods required to support the "forms" for concrete beams. The wire supports are to be placed 2 feet on centers as shown in the accompanying sketch. The wire is to be bent around the top edge of the steel beam as shown.

Answer.—In order to hold the forms in place around a 9-inch steel I-beam as indicated in the sketch of the correspondent a No. 6 wire should be used.

A No. 8 wire can be used with a higher stress, but for such work a wire is seldom satisfactory, owing to the difficulty experienced in attempting to draw it tight



Supporting forms for concrete beams.

so the bottom of the form will be in a straight line and be truly horizontal.

The correspondent will obtain better results by using bolts hooked over the edge of the lower flange and projecting through the bottom boards, the nut working against a washer regulating the distance of the lower board from the bottom of the flange. The bolts may be ½ inch diameter. When the forms are removed it will be necessary to cut off the ends of the bolts projecting below the beams.

There should be some wire lath around the lower flange of the I-beam to retain the concrete for the reason that the face is too broad without this lath. It is difficult to get the thin mortar to flow under the flange, and unless the lath is there a slight blow will make it fall away.—Ernest McCullough in "Building Age."

Repairing Concrete Surfaces

At the recent annual meeting of the American Railway Engineering Association, in Chicago, the Committee on Masonry reported as follows on the subject of repairing surfaces:

In all cases the surface to be repaired must first be thoroughly cleaned of all loose material, laitance and dust and the clean, rough, sound concrete exposed to receive the patch. Probably the best method of cleaning is by means of a steam jet.

After cleaning, the surface to be repaired must be thoroughly saturated with water, not simply moistened, but so thoroughly drenched that the old concrete will not absorb water from the new mortar or concrete used in patching. If possible, the surface should be kept covered with water for several hours.

If the repair of patch is to be made on a vertical or sloping surface and is not to be more than 1½ inches thick, the surface of the old concrete, while it is still wet, should be spattered or splashed with a cement grout, following this immediately with a fairly stiff plaster coat of mortar made of the same proportions of cement and sand as was used in the original concrete, but never richer than 1 cement to 2½ sand. This plaster coat should not be thicker than ½ inch, and each coat should be forced into the surface, but not dragged with a trowel. The surface of each coat, except the final coat, should be "scratched" to give a bond for the next coat. This plastering should preferably begin at the top and progress downward, and only enough time be allowed to permit each coat to receive its initial set before the next coat is applied. The final coat should be finished with a wooden float and only enough water used to properly finish the surface. This patch should be kept damp and protected from sun or frost till fully set up.

If the repair or patch or "finish coat" is to be made on a horizontal or nearly horizontal surface, the surface of the old concrete should be slushed and brushed with a thin cement grout, following this immediately with a wet mortar made of 1 part cement and 2½ parts sand or granite screenings and of the full thickness required (not less than ½ inch thick, however). When this mortar begins to take its initial set, it should be floated or troweled to such a finish as may be desired.

If the repair or patch is to be made on a vertical or sloping face and is to be more than 1½ inches thick, it will be advisable to imbed dowels into the old concrete, as deeply as the thickness of the proposed patch, and spaced sufficiently close together to firmly anchor the patch to the old concrete. The dowels must be wedged into the old concrete and it will be advisable to fasten wires, metal fabric or bars to the dowels, in the case of extensive patching, as an additional safeguard. The patching may then be done with mortar without forms, or with wet concrete supported by forms, depending upon the thickness and the extent of the patch.

If the repair or patch is to be made on a horizontal or nearly horizontal face and of considerable thickness, dowels may be used, or the concrete may simply be reinforced by fabric or bars without using dowels —treating the patch as a block of masonry.

Care must be taken not to have thin edges on

patches. To avoid this, it may be necessary to cut out sound concrete around a place to be patched, so as to give deep edges to the patch. If possible, the edges should be undercut.

Handling Small Work Economically

By L. S. Lester in Concrete-Cement Age

I recently put in some foundation walls, using methods which may be of interest to your readers. My plan for doing this work is as follows:

Excavate as for masonry, digging the trench wide enough to allow the footing to extend outside the foundation proper, the distance depending on the weight of the superstructure. A plank is then laid on the ground outside the trench and skated to line. To this the studs are nailed as shown. Sufficient braces are nailed to these posts to hold the tops firmly to line, and a line is stretched marking the top of the outside of the foundation wall. Then, choosing straight boards, I began at the top of the form and boarded down. Studs for the inside form are similarly placed, the tops spaced to give the required thickness of wall and the boarding on the inside begins at the bottom and is carried up as the form is filled. The two forms are securely wired together. If necessary to fill from the outside, this order is reversed and the braces put on the inside. I find it necessary to brace but one side, and this plan leaves the other clear to work from.

My mixer can hardly be called a "low charging" one. To expedite matters, I made a number of boxes of measured capacity with handles. Two men can handle 1½ cu. ft. of sand or gravel easily. These were filled by the shovelers and placed conveniently for the men loading the mixer. Two boxes of gravel, one box of sand and ½ sack of cement made a 1:3:6 mix with great accuracy, and these could be dumped into the machine in a very few seconds and the mixer started again. In fact in one run of 4½ hours we averaged a batch every 80 seconds mixing 5 cu. yds. per hour with a 3-cu. ft. machine. I like my small machine as the gang can carry it anywhere. Gasoline furnishes the power. Two h.p. is ample.

The sloppy concrete was handled from the box into which it was dumped with ordinary grain scoop shovels. Do not use too big ones if you love your men.

This particular job was on a side hill, and by keeping the mixer above the work was almost no wheeling concrete up inclines. In fact most of it was shoveled directly into place.

For long low walls I made a wheel-barrow frame with a handled tray that could be lifted to dump into the forms. We found this very convenient for forms from 1½ feet to 3 feet high. The man who looks after the puddling can help the wheeler dump. No scaffolding is needed for these heights.

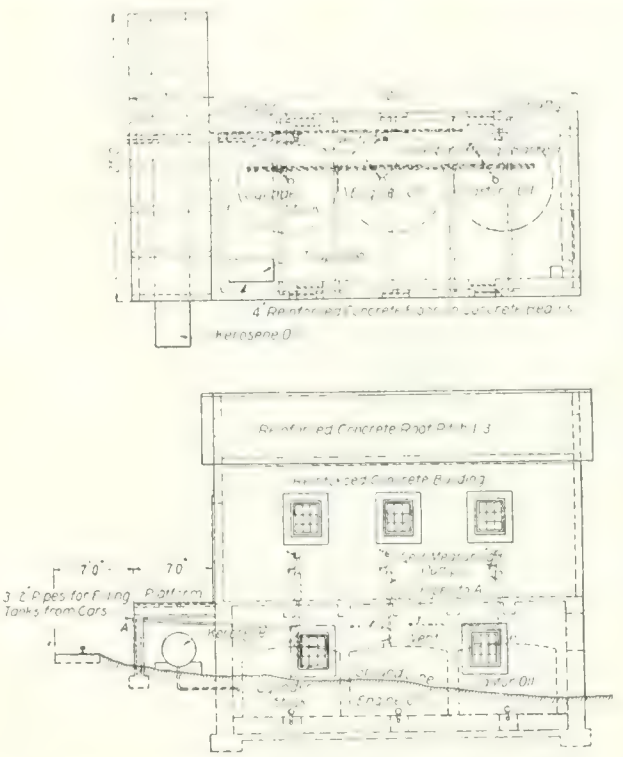
These wheelbarrows may also be used in place of the measuring boxes where the sand and gravel have to be brought some distance to the mixer. I find it much easier to move dry material than mixed concrete and for that reason I like my small, easily moved machine.

The measuring boxes for proportioning and quick charging of mixer, the scoop shovels, the wheelbarrow with removable tray, are field "kinks" which I have not seen in use on other work.

[Note.—We might add that the plank laid flat on the ground and staked to line outside the studding is a field "kink" that is not in general use.—Editors.]

Plans and Cost of a Reinforced Concrete Oil House

The plan and elevation in the accompanying drawing illustrate the main structural features of a reinforced concrete oil house for mine workings. The house is of one storey and a basement with a front platform along the railway tracks. The basement and the space under the platform provide for the storage tanks as shown; these tanks are filled by pipes extending to the front of the platform where connection



Plan and elevation of reinforced concrete oil house

can be made with tank cars. From the tanks the oil is raised by pumps to the first floor for distribution. The other fittings are shown by the drawings.

The building is constructed entirely of plain and reinforced concrete and its cost was as follows:

Building—	Cost.
Surface labor	$ 504.94
Carpenter labor	131.24
Machinist and smith	184.30
Teaming	60.28
Total labor	$ 880.76
Cement	297.77
Sundries	277.70
Total materials	$ 575.47
Total building	1,456.23
Equipment	
Tanks (except kerosene)	556.13
Pumps	150.00
Total equipment	$ 706.13
Grand total	$2,162.36

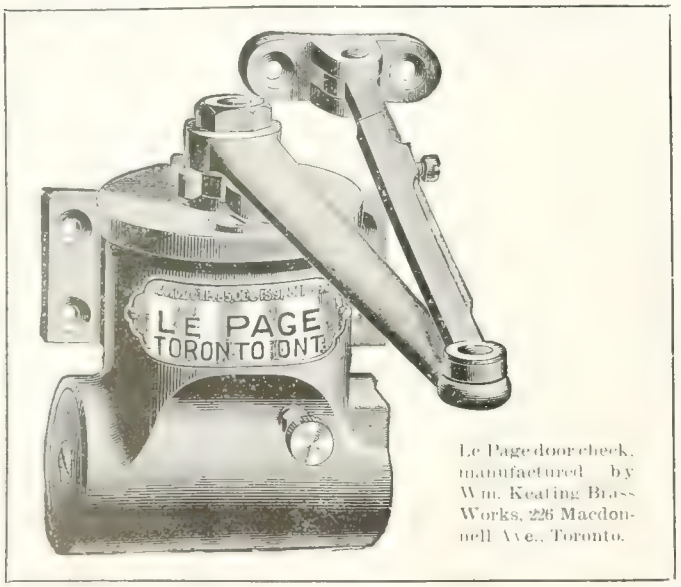
These costs are taken from a paper by Mr. W. M. Davis before the Lake Superior Mining Institute.

New Equipment

Le Page Door Check

The Le Page door check, now being manufactured in Canada by Wm. Keating's Brass Works, 266 Macdonell Ave., Toronto, is shown in the accompanying illustration. It is well adapted for offices, schools and residences and, on account of its efficiency, is proving valuable to builders and contractors.

The check works on the oil principle, is made of solid brass, and the lower part contains a piston filled



Le Page door check, manufactured by Wm. Keating Brass Works, 226 Macdonnell Ave., Toronto.

with a special variety of oil that will not freeze or corrode. It is easy to adjust and by simply turning a screw, the door can be made to close fast or slowly, as desired. Made without any packing, it is guaranteed to work perfectly.

The firm has branch agencies in Winnipeg and Calgary.

Waterproofing Cement and Concrete Work

An easily mixed powder for waterproofing cement and concrete, selling under the name of "Pudlo," has been placed on the Canadian market by W. H. Thornhill Co., 160 Princess Street, Winnipeg. It has been sold in the British Isles for some time, and some interesting tests have been made with it.

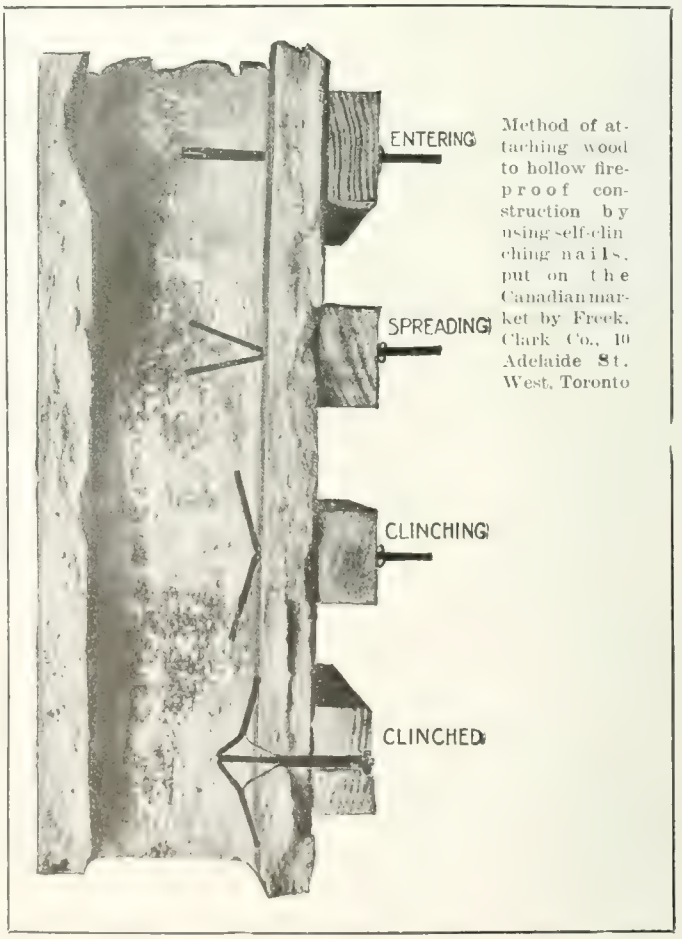
Important among these are the ones made by Messrs. H. Faija & Co., analysts. The 7 and 14 days tests with cement ganged with 8 per cent. of water, there was a decided increase in strength in the briquettes in which Pudlo was mixed. This fact is very important in construction work. The same authorities state there is nothing in this waterproofing to react detrimentally after prolonged periods.

The British Government, after some very severe tests, used Pudlo for waterproofing the fortification at Gibraltar. References to testimonials shows that builders have used this waterproofing successfully for keeping water out of a large basement and also for flat roof.

The W. H. Thornhill Co. have issued a booklet dealing fully with this waterproofing and will mail it to any readers of The Canadian Builder, on request.

Self-Clinching Nails for Hollow Fireproof Construction

The self-clinching nail is a peculiar form of fastening device that operates in a way to anchor itself automatically while being driven in hollow walls, ceil-



Method of attaching wood to hollow fireproof construction by using self-clinching nails, put on the Canadian market by Freek, Clark Co., 10 Adelaide St. West, Toronto

ings and other places inaccessible from the rear. The fastener operates by utilizing the pressure exerted by the hammer on the outer end of the nail.

As shown in the accompanying illustration, the top of the nail consists of a "driving stem" which protrudes through and above the washer-like head. This stem also extends down through the body of the nail, and is attached at its lower end to a couple of clinching prongs.

The whole arrangement is such that when the head of the nail, in driving, has reached the face of the fix-

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Write for Booklet T.B., which gives sizes, shipping weight, covering capacity, and methods of application, to

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If you believe in the common sense idea that what a man gets is as important as what he pays, we ask you to send for sample of **Whale-Hide** and investigate its quality.

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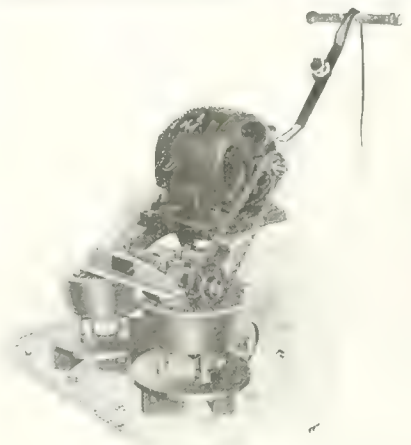
ture, it becomes stationary, while the stem, being movable, telescopes into the rest of the nail, and operates to force the prongs apart, reverse and clamp them tight on the rear or interior surface of whatever substance is penetrated.

The self-clinching nail is used for attaching wood or metal to hollow fireproof construction. The old method was to make holes in the wall and plug them up with pieces of wood to hold ordinary nails. The self-clinching nail is intended to eliminate this operation and attach articles directly to the surface of unplastered fireproofing by riveting them to the wall.



Surfacing and polishing machine for terrazzo, cement, tile and composition floors, manufactured by The American Floor Surfacing Machine Co., Toledo, Ohio.

The nail is being placed on the Canadian market by Freek, Clark & Co., 10 Adelaide St. W., Toronto.

Surfacing Machine for Terrazzo, Cement, Etc.

The surfacing machine shown in the accompanying illustration was designed for surfacing and polishing terrazzo, cement, tile and composition flooring. It will operate in a space 4 x 4 feet or in large space.

The working principle is as follows: It has two 12-inch discs covered with carborundum blocks, driven 175 revolutions per minute, which revolve inwards towards each other, but in opposite directions, thereby making the machine easy to handle, without a tendency to circle around and cut disc marks in the floor.

The discs are connected to the main driving bell with universal bell joint couplings which prevents more pressure on one edge of the discs than on the opposite sides.

Each machine weighs 200 pounds without motor, and is so balanced that the operator can tilt it on its traction wheels and easily take it anywhere with the motor on it. It is small enough to pass through any door, being 26 inches wide. With it, any size may be surfaced from an area 4 x 4 feet to the largest buildings.

These machines are used by the United States Government, in the War, State and Navy Department building in Washington, D.C., also by the Government of Alberta at Edmonton.

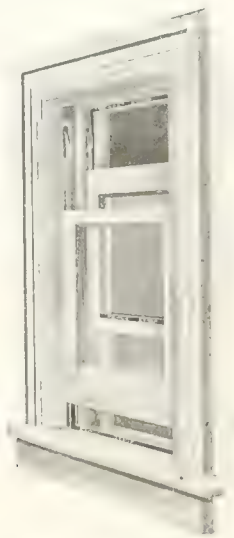
These machines are manufactured by the American Floor Surfacing Machine Co., Toledo, Ohio, U.S.A.

"Peace" Metal Weather Strip

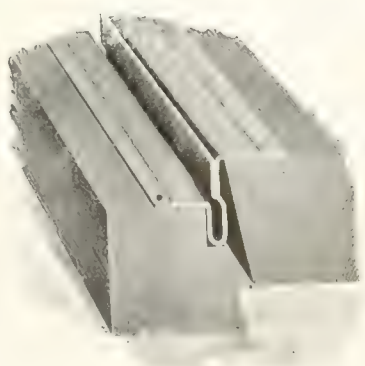
The Peace weather strip is a permanent fixture which, when applied to windows and doors, excludes draughts and cold winds, dust, and atmospheric filth, cuts off outside noises, tightens loose sash, and prevents rattling. The strip is fashioned with a rib running lengthwise, and into which is forced a wooden core, which acts as a reinforcing, and makes it practically indestructable. It provides a means for easy and free sliding of the windows at all times.

This weather strip is fastened into the window casing channel, top, sides, and bottom. The rib of the strip fits into a groove in the sash, thus making a joint very similar to a tongue and groove in the matched lumber. These strips may be applied to all classes of windows, such as straight, curved, or swell windows, and doors. No special preparation of casing or sash need be called for in plans or specifications.

The illustrations show how the metal weather strip applied to windows and the method in which it works. The Peace metal weather strip is manufactured by the William Peace Co , Bank of Hamilton Building, Hamilton.

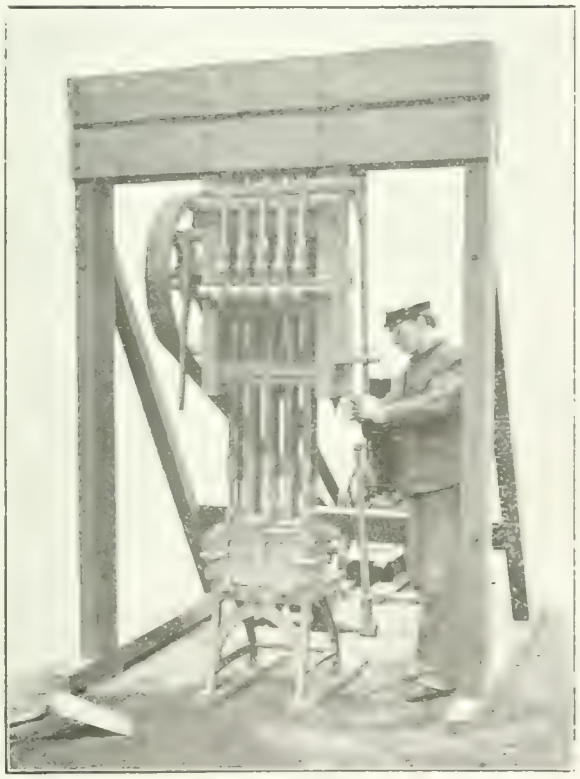


Window equipped with Peace Weather Strip, manufactured by Wm. Peace Co., Hamilton.



Method of fitting together

Window open, showing how weather strip works



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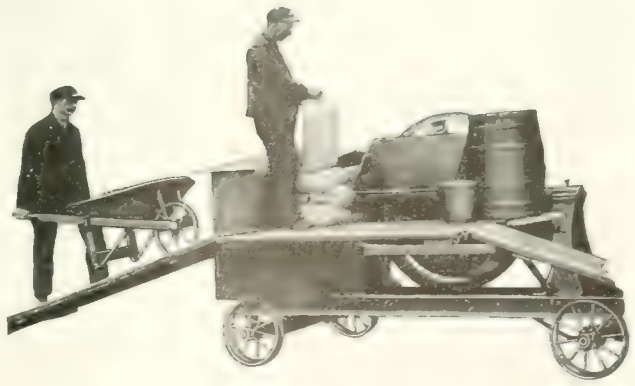

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Dept. C.B.

Price List of Building Materials -Revised to Date

	PRICE AT MONTREAL	PRICE AT TORONTO	PRICE AT WINNIPEG	PRICE AT VANCOUVER
Hemlock Lumber				
2 x 4 in. to 2 x 12 in., 8 to 14 ft.	$20.00	$26.00 to 27.00	$29.00	
2 x 4 in. to 2 x 12 in., 16 ft.	22.00	26.00 to 27.00	29.00	
2 x 4 in. to 2 x 12 in., 18 ft.		29.00	29.00	
1 in. Hemlock No. 1	20.00	25.00 to 27.00		
No. 1 hemlock decking	23.00	25.00		
No. 2 hemlock dimension and 1 in.		21.00		
Pine				
1 in. common pine, 8 to 12 in. wide, rough	$27.00 to 30.00	$28.00 to 30.00		
2 in. white pine, bill stock	29.00 to 33.00	29.00 to 33.00		
1 x 8 and 10 in. pine shelving	36.00 to 40.00	36.00 to 40.00		
1 x 12 pine shelving	42.00	45.00		
No. 1 white pine flooring	40.00	37.00		
No. 1 spruce flooring	30.00	30.00		
No. 1 pine decking, D2S	40.00	33.00		
Spruce decking		30.00		
No. 1 pine V. or beaded sheeting	37.00	39.00		
No. 2 pine V. or beaded sheeting	31.00	35.00		
Pine Trim for Paint Finish				
4 in. casing, per 100 ft.	$2.00	$2.00		
5 in. casing, per 100 ft.	2.00	2.30		
8 in. pine base, per 100 ft.	3.50	3.48		
10 in. pine base, per 100 ft.	4.25	4.54		
4 in. pine window stool, per 100 ft.	2.75	2.75		
Shingles, Lath Roofing, Etc.				
XXX B. C. cedar shingles		$3.60 per M	$4.00 & 3.50 per M	$2.20 & 2.10 per M
X. B. Extras		3.50		
X. B. Clears		2.90		
No. 1 pine lath	5.00	4.75 per M	5.75 per M	2.25 per M
No. 2 pine lath	4.50	4.25		
No. 1 spruce lath	4.00	4.50		
Metal lath			.16 to .20	
Roofing Felt (2 ply)		3.50 per square	2.50 per roll	
Cedar Posts—Fence				
5 in. at small end	5c. foot	.25 each		
7 in. at small end	7c. foot	.35 each		
Hardware				
Nails, wire, common	$2.35 base keg	$2.40 cwt.	$3.70 per keg	$3.25 per keg
Nails, cut, common	2.55 " "	2.75	3.70	4.25
Sash weights, cast iron	1.50 per 100 lbs.	1.65		
Tarred felt paper	.40 roll	.45 roll	.90 per roll	.90 per roll
Building paper	.30 roll		.75	.70
Insulating paper			1.25	
Brick, Tile, Terra Cotta, Sewer Pipe				
No. 1 dry pressed red brick	19.50	$18.00 per M	$25.00 to 50.00	$45.00 per M
No. 1 dry pressed buff bricks	20.50	18.00	25.00 to 50.00	45.00
Red stock bricks	11.00	12.00	13.00	13.00
Grey stock bricks		11.00		
Wire cut bricks for foundation work		11.00		
Porous terra cotta bricks		15.00	$15.00 per M	
No. 1 enamelled bricks, all colors, from		80.00 to 150.00	100.00	
Fire brick	25.00		45.00	45.00
Roofing tile			.15 per ft.	
Sewer pipe, 4 inch	10c. foot		.08½ per ft.	.14 per ft.
Sewer pipe, 6 inch	15c. foot		.16½ per ft.	
Cement, Plaster, Stone, Etc.				
Cement (bags extra)	1.80 bbl.	$1.80 bbl. (1.55 in car lots)	$2.50 per bbl.	$3.00 per bbl.
Sand, for cement or brick work	1.00 ton	1.15 a yard	1.75 a yard	
Lime	12.00	.35 cwt.	.32 per bu.	1.25 per bbl.
Hydrated lime	13.00	10.00 ton	12.00 per ton	4.25 per bbl.
Mortar color	5.00 bbl.	black, 3; red, 2	.05 per lb.	
Plaster of paris	2.35	2.50 bbl.	4.00 per bbl.	4.50 per bbl.
Crushed stone, 2 in.	1.50 ton	1.40	2.50 per yard	
Crushed stone, 1 in.	1.60	1.45	2.75	
Crushed stone, ¾ in.	1.75	1.50	2.75	
Hardwall plaster	$12.50 neat 6.00 sanded ton	$12.00 neat 1.00 sanded	12.00 per ton	14.50 per ton
Gravel	1.85 ton		1.85 per yard	
Hair (plaster)	.03 per lb.	.04 lb.	1.25 per bale	14.50 per ton

NOTE TO READERS. We would be glad to have suggestions from readers as to the extension or modification of this list.

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Consolidated Plate Glass Co., Toronto

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Sand & Supplies, Toronto

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Scraper Knives.
Fox Supply Co., Brooklyn, Wis.
Scrapers.
Fox Supply Co., Brooklyn, Wis.
Hurley Machine Co., Toronto.
Scraper Sharpening Device.
Fox Supply Co., Brooklyn, Wis.
Seats, Implement.
Galt Art Metal Co., Galt, Ont.
Sewer Pipe.
Ontario Lime Association, Toronto.
Sewer Pipe Molds.
Ideal Concrete Machinery Co., London,
Sharpening Machines.
Luther Grinder Mfg. Co., Milwaukee, Wisconsin.
Sill and Cap Molds.
Ideal Concrete Machinery Co., London
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Standard Ideal Co., Port Hope, Ont.
Soil Pipe Fittings.
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Consumers' Gas Co., Toronto.
Shingles, Galvanized Steel.
Galt Art Metal Co., Galt, Ont.
Shingles, Metal.
Metal Shingle & Siding Co., Preston, Ont.
Shooks.
Georgian Bay Shook Mills, Midland,
Skylights.
Galt Art Metal Co., Galt, Ont.
Metal Shingle & Siding Co., Preston,
Sidewalk Prisms.
Consolidated Plate Glass Co., Toronto.
Siding, Steel.
Galt Art Metal Co., Galt, Ont.
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Ideal Concrete Machinery Co., London,
Sinks (Kitchen and Wash).
Standard Ideal Co., Port Hope, Ont.
Spanish Roofing Tile Machines.
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George B. Meadows, Toronto
Stanchions.
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Metal Shingle & Siding Co., Preston,
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Galt Art Metal Co., Galt, Ont.
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Terra Cotta.
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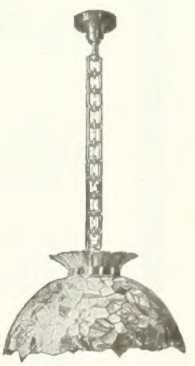

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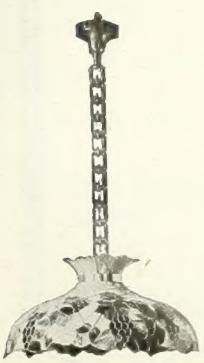

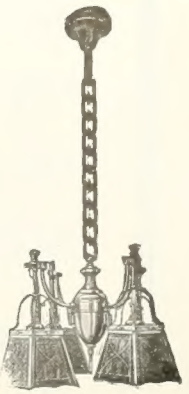

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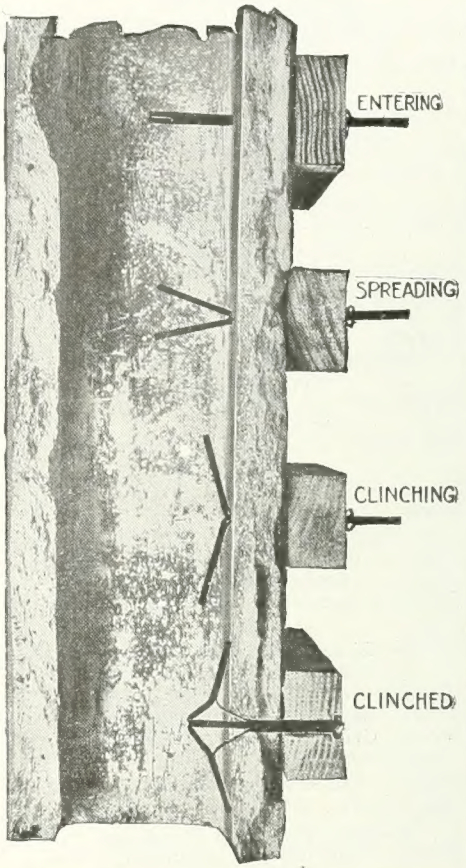

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10 Adelaide St. W. - - - Toronto

Index to Advertisements

A

Alabastine Company, Limited 20
American Floor Surfacing Co 15
Asbestos Manufacturing Co., Ltd., Montreal 53

B

Batts, Limited 11-12 13-14
Bishopric Wall Board Co ..... i.f.c.
Braid & McCurdy ..... i.f.c.

C

Canada Lumber Co 9
Canadian Yale and Towne Co 8
Consolidated Plate Glass Co ..... i.f.c.
Consumers' Gas Company 61
Crown Gypsum Company ..... o.b.c.

D

DeLaplante, L. A. Limited 24
Dennis Wire & Iron Works Co 20
Dominion Ornamental Iron Co 21
Dommion Roofing Manufacturing Co., Ltd 53
Double Claw Hammer Co 18

E

Elliot W. A 16-17

F

Fox Supply Company, Brooklyn, Wisconsin 18
Freek-Clark & Co. 62

G

Galt Art Metal Co 57
Georgian Bay Shook Mills Co 3-4-5-6

H

Hart, J. A. Company ..... i.b.c.
Hurley Machine Co 24
Hutchinson, Mackintosh 10

I

Ideal Concrete Machinery Co 55

K

Kepplinger, C. J., Dwight, Ill 18

M

Meadows, Geo. B. 21
Metal Shingle & Siding Co 22-23

N

Neilson, J. L. & Co. 10

O

Ontario Lime Company 19
Oshkosh Manufacturing Co. 15

P

Parks Ball Bearing Machine Co., Cincinnati 15
Pease Co., William, Limited 18
Powell Lumber Company 7

S

Sand & Supplies Limited 58
Simonds Saw Company 8
Soss Invisible Hinge Co., Limited 57
Standard Ideal Co., Limited ..... i.b.c.
Stewart Mfg. Co., James ..... i.b.c.
Stinson-Reeb Builders' Supply Co. 59
Sturgeons Limited 58

T

Thornhill Co., W. H 58
Toronto Plate Glass Importing Co. 18

W

Walker, W. & Son 57
Weber Manufacturing Co., West Allis, Wis. 15
Winnipeg Wire & Iron Works 20
Wettlaufer Bros. ..... o.f.c.

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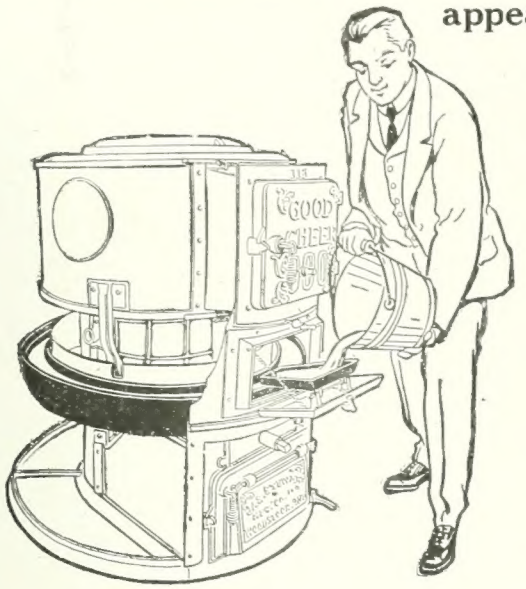

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